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CO-OPERATIVE HOUSING PROGRAMS EVALUATION

AUDIT AND EVALUATION SERVICES

SEPTEMBER 2003

CMHC SCHL

HOME TO CANADIANS
Canada

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EXECUTIVE SUMMARY

INTRODUCTION

This evaluation investigated the housing and other benefits provided through the federal co-operative housing programs. The purpose was to determine whether co-operative housing programs have provided adequate, affordable, democratically controlled and member operated housing for low- and moderate-income households and whether there are other benefits of co-operative housing.

Although federal funding for new co-operative housing projects was terminated in 1993, loan and subsidy assistance on existing co-operative housing has continued since 1993 for 1,976 projects containing 65,273 housing units. The current evaluation included this total stock of co-operative housing assisted through four federal programs since 1973 which continue to receive housing subsidies amounting to roughly $200 million annually.

METHODOLOGY

This evaluation used a comparative methodology to assess differences between co-operative housing and other tenures (including non-profit and private rental and condominium ownership), and to compare the co-operative housing funded under the four federal housing programs. Multiple sources of data were used where possible to provide relevant indicators. These data sources included: existing Statistics Canada data (e.g. Census data), surveys of occupants and project managers, and a physical condition survey (i.e. inspections of projects and dwellings) to determine repair needs. Statistical analyses were conducted to test for significant differences between co-operative and other housing tenures where appropriate. Program administrative and financial data were used to analyze program costs.

KEY FINDINGS

- **Government Expenditures**

The total government expenditure for all co-operative housing programs from 1973 to 2000 was about $4.1 billion (current $). Nearly two-thirds of these expenditures were incurred to bridge the difference between the economic cost and market housing charges and one-third was incurred to further reduce housing charges for low-income residents. The expenditure per unit of co-operative housing varied among the programs due to the program financing mechanisms. The average annual expenditure per unit of co-operative housing was $4,719 (2000 $), ranging from $2,287 for the earliest (1973-1978) program to $8,881 for the most recent, fully-targeted (1986-1993) program. The average annual expenditure per low-income unit is $10,259 in 2000 $.

- **Income Targeting**

Most co-operative housing (over 95 percent) was developed under programs designed to serve a mix of low- and moderate-income households. The evaluation found that half the residents in regular co-operatives and 82 percent of residents in the targeted co-operatives have incomes below CMHC's core need income thresholds (CNITs). An additional 20 percent of co-operative residents in mixed-income co-operatives have moderate incomes so that overall about 70 percent of residents in these co-operatives have incomes in the two lowest income quintiles. While 20 percent of regular co-operative residents have incomes above the moderate-income thresholds to qualify for a mortgage, only 10 percent said they have the means to purchase a home based on their perceptions of their ability to finance a downpayment and carry a mortgage. However, 70 percent said they would buy a home if they had the means. In the mixed income co-operatives developed from 1973 to 1991, 39 percent of units were identified as rent geared-to-income (RGI) housing, and 85 percent of projects have met or exceeded RGI target guidelines. Therefore, co-operative housing is achieving the objectives of providing housing to low- and moderate-income households and is well-targeted.

- **Affordability**

Comparing housing charges with rents for comparable units in the private market in 2001, co-operative housing is at least as affordable as private market rents. Average shelter cost to income ratios for non income-tested households in co-operative housing (31 to 33 percent) are somewhat lower than in rental housing (39 percent) but about the same as for condominium housing (33 percent). For the lower income co-operative households, shelter costs are geared to incomes but the average shelter cost to income ratios are 36 to 38 percent. Based on these findings, the evaluation concluded that co-operative housing is providing affordable housing, although shelter costs are over 30 percent for more than a third of all co-operative households.

- **Adequacy**

In addition, co-operative housing conditions are adequate for over 90 percent of the residents. Less than 10 percent of units were rated as being in need of major repairs. Co-operative housing serves persons with long-term physical disabilities requiring special features such as wheelchair access or other modifications. Twelve percent of co-operative units are occupied by a person(s) with disabilities and over 60 percent of persons with disabilities occupy units where all or most of the needed accessibility modifications had been made.

- **Suitability**

Less than 10 percent of co-operative housing is over-crowded. However, the unit size profile is not well matched with the household size profile and smaller (1 and 2 person households) are occupying larger units than occupancy standards suggest.

- **Resident Involvement**

Greater resident involvement in the operation of co-operative housing than in other types of housing has contributed to benefits such as more influence over decisions about housing and higher security of tenure and quality of life. More than 90 percent of co-operative residents have participated in the operation of their housing and 65 to 70 percent feel they have the ability to influence decisions about their housing through participation.

- **Resident Benefits**

Participation has contributed to benefits such as a greater degree of security of tenure in co-operative housing as compared with private rental. As well, households in co-operative housing have achieved more improvement than residents in other housing on key quality of life indicators such as an improved sense of community, improved relations with friends and neighbours and increased social supports. Co-operative residents achieved similar improvements to residents in other housing in terms of skills development and economic well-being such as increased labour force participation, acquiring new jobs and more training.

- **Repair costs and Reserve Funds**

The co-operative housing stock currently has estimated repair needs of $129 million (an average of $2,082 per unit of co-operative housing). Many co-operatives have sufficient dollar amounts in their capital replacement reserves to cover the necessary repairs and, overall, the dollar amounts in reserve funds have increased more than portfolio repair costs since 1990. The proportion of projects with insufficient reserve funds has declined since 1990. However, 45 percent of the projects do not have sufficient reserve funds to cover repair costs and the total deficit of reserves in these projects was nearly $53 million in 2001/02. These co-operatives will need to generate additional revenues or borrow funds to maintain housing conditions to minimum standards. The ability of co-operatives to generate more revenues through increased housing charges (to cover the costs of repairs and/or to pay debt financing expenses) will depend on rent levels and vacancy rates in the local private housing markets.

- **Projects in Financial Difficulties**

Co-operative housing projects were more likely than non-profit rental projects to experience financial difficulties (15 percent of all co-operative housing projects [238 co-operatives] compared with 5 percent [116 NP rental projects]). Projects in financial difficulty may receive additional financial assistance through the Mortgage Insurance Fund or the Federal Co-operative Housing Stabilization Fund for ILM co-operatives from premiums contributed by the co-operatives. Nearly half (46 percent) of the 238 co-operative projects identified as experiencing financial difficulties have workout agreements in place that are monitored for the term of the agreement by the responsible portfolio management authority (CMHC or the provincial housing agency). The evaluation found that many external and internal factors are associated with projects in financial difficulties and there is no single main factor. Market conditions, the condition of buildings and management factors were identified as significant variables. The findings suggest that preventative and/or remedial measures to address the

problems of projects in financial difficulties need to be broadly based and take account of the specific conditions in individual co-operatives.

CONCLUSION

Overall, the 1,976 co-operative housing projects with 65,273 housing units financed under federal programs since 1973 are providing adequate, affordable housing for low- and moderate-income households and residents' involvement in their housing has generated additional benefits such as improved security of tenure and quality of life. The government expenditures are enabling households that would otherwise not be able to afford alternatives to rental housing to achieve benefits not available in rental housing such as greater security of tenure and resident control of their housing. The main challenges for the future are in areas such as ensuring efficient utilization of the co-operative stock, ensuring the affordability of the housing provided, addressing repair needs to maintain conditions and resolving financial difficulties that some co-operatives experience.

1. INTRODUCTION

This evaluation investigated the housing and other benefits provided through the federal co-operative housing programs. The purpose was to determine whether co-operative housing programs have provided adequate, affordable, democratically controlled and member operated housing for low- and moderate-income households and whether there are other benefits of co-operative housing.

A committee (the Co-operative Housing Evaluation Advisory Committee) was established by CMHC's Audit and Evaluation Services to provide advice on the planning for the evaluation and design of the various survey instruments. Committee membership included the co-operative sector, provincial government agencies that expressed an interest in participating on the committee and CMHC (including the policy and program divisions).[1]

The last evaluation of the co-operative housing programs was completed in 1992[2] and examined the use of the index-linked mortgage financing technique introduced in 1986. Prior to that, the preceding co-operative housing program was evaluated in 1983[3] and an earlier version of the program was included in the 1984 review of all social housing programs.[4] Although federal funding for new co-operative housing projects was terminated in 1993, loan and subsidy assistance on existing co-operative housing continues for some 1,976 projects containing 65,273 housing units which continue to receive housing subsidies amounting to roughly $200 million annually. At the request of the Provinces of Ontario and British Columbia, data was also collected in the evaluation for a sample of the 21,749 co-operative housing units funded unilaterally by these provincial governments.

The scope of this evaluation was at the national level covering co-operative housing funded under four federal housing programs since 1973. The evaluation focused on the co-operative portfolio as a whole and was not intended to examine differences among the four programs, although comparisons were made between the fully-targeted co-operatives developed under the post-1986 Federal/Provincial Non-Profit Program and the earlier income-mixed co-operatives. The sampling universe for the evaluation's surveys excluded co-operative projects in British Columbia experiencing moisture damage that is not typical of the majority of co-operatives. The evaluation did not examine inter-provincial variations in co-operative housing. Further, the purpose of the evaluation was to examine the current (2001) profile of co-operative housing and was not intended to examine trends over time. However, the findings from this evaluation may be compared with the findings of the 1992 CMHC Evaluation of the Federal Co-operative Housing Programs. Finally, the evaluation does not examine policy implications that may arise from the findings and conclusions.

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[1] See Appendix B for list of *Advisory Committee* members.

[2] *Evaluation of the Federal Co-operative Housing Programs*, Program Evaluation Division, CMHC, February 1992.

[3] *Section 95 Non-Profit and Co-operative Housing Program Evaluation*, CMHC, 1983

[4] *Social Housing Review*, CMHC, 1984

This evaluation used a **comparative methodology** to assess differences between co-operative housing and other tenures (including non-profit and private rental and condominium ownership), and to compare the co-operative housing funded under the four federal housing programs. Univariate comparisons were strengthened by using multi-variate regression analyses that controlled for key socio-economic variables and compared outcome indicators for households with similar characteristics among the tenure types. These techniques improve the reliability of the findings. However, the conclusions are subject to the standard limitations of perception-based indicators based on survey data and the influence of other variables that cannot be controlled in the analysis because of data limitations.

Multiple sources of data were used where possible to provide relevant indicators and validate the evidence. These data sources included: existing Statistics Canada data (e.g. Census data), surveys of occupants and project managers and a physical condition survey (i.e. inspections of projects and dwellings) to determine repair needs. Statistical analyses were conducted to test for significant differences between co-operative and other housing tenures where appropriate. Program administrative and financial data were used to analyze program costs.

This report summarizes the key findings from the evaluation at a national level. More detailed information is contained in appendices to the report. Appendix A contains tables of selected socio-economic and demographic data compiled in the evaluation. Appendix B provides details on the methodology for the evaluation. Appendix C includes tables of statistical information from the evaluation surveys. CMHC has created a public database including survey data from this evaluation that is available to outside agencies for additional analysis.

2. CO-OPERATIVE HOUSING PROGRAMS & EXPENDITURES

2.1 OVERVIEW

For purpose of this evaluation, co-operative housing included incorporated non-profit co-operative projects which have received loans and/or grant and/or subsidy assistance from the federal government and provincial governments under a co-operative housing program. In 2000, 1,976 co-operative housing projects with 65,273 units that have received funding under one of four federal programs since 1973 are still receiving federal financial assistance.[5]

2.2 CO-OPERATIVE HOUSING PROGRAMS

The development of co-operative housing programs in Canada was discussed in detail in the 1992 Evaluation Report.[6] The federal government made changes to program funding mechanisms in the years 1978, 1985 and 1986 for co-operative and non-profit housing programs.

Four programs have been used to finance and assist housing co-operatives since 1973, and the main features of these are summarized in Table 2.1. These four programs vary not only with respect to the loan and subsidy financing mechanisms used but also with respect to the clienteles. The three co-operative programs (1973-1978, 1979-1985 and 1986-1991) were all intended to serve a mix of lower and moderate income households.[7] From 1986 to 1993, housing co-operatives were developed under the F/P Non-Profit Housing Program which provided funding for targeted non-profit rental housing and co-operatives. Federal assistance was fully targeted to lower-income households in core need[8] and co-operative projects in P.E.I., Quebec and Manitoba were fully targeted to core need. However, provincial governments had the option under this program to provide additional assistance to fund non-targeted units and in Ontario and British Columbia these co-operatives are income-mixed. The distribution of co-operative housing units by federal program and province is shown in Appendix A, Table 18.

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[5] In addition, about 21,749 co-operative housing units have been funded unilaterally by provincial governments. Data was collected on provincial co-operatives in Ontario and B.C. at the request of the provincial governments and are shown for comparative purposes in this report. Details on the Ontario and B.C. co-operative programs are included in the Appendix B.

[6] See Chapter II The Evolution of Federal Involvement in Co-operative Housing in *Evaluation of the Federal Co-operative Housing Programs*, PED, CMHC, February 1992, pp.12-18.

[7] Whereas the target group for the 1986-1993 N/P Non-Profit co-operatives was defined as 'core need' households, the definition of 'low and moderate income households' varied among the previous co-operative housing programs. In the 1973-1978 program, the income limit for targeted assistance was the upper limit of the 2nd Quintile of family income. In the 1979-1985 program, assistance was targeted to households for whom occupancy charges exceeded 25% of their incomes. The 1986-1991 program was targeted to households unable to afford to purchase their own home and assistance was targeted to households with incomes below CNITs for whom market rents exceeded 30% of their incomes.

[8] Households are defined as being in core housing need if they live in housing that needs major repairs, lacks adequate functioning bathroom facilities, is overcrowded and/or costs 30 percent or more of household incomes, and the household would have to spend 30 percent or more of their income to pay the average rent of alternative local market housing that meets standards.

TABLE 2.1:
FEDERAL HOUSING PROGRAMS FOR CO-OPERATIVE HOUSING

Years	Loan financing	Subsidy assistance	Target clients
1973 - 1978 Co-operative Housing Program	CMHC 50 year equal payment mortgages covering 90% of development cost. Many projects acquiring & renovating existing property also received RRAP funding.	Grants covering 10% of development cost and interest rate reduction assistance to the equivalent of an 8% mortgage interest rate. Surcharges for higher income residents allowing lower income occupants to pay reduced occupancy charges. Low-income residents may be assisted through Rent Supplements	Moderate and low-income households. Maximum of 25% of units in family projects and up to 50% of units in seniors projects available for Rent Supplements.
1979 - 1985 Co-operative Housing Program	Private equal payment mortgages up to 35 years covering up to 100% of development cost, insured by CMHC. Since 1993, CMHC has re-financed many of these projects under its Direct Lending Program. Many projects acquiring & renovating existing property also received RRAP funding. Projects in difficulty may be assisted by the Mortgage Insurance Fund (MIF).	Maximum annual subsidy equal to difference between amortization of eligible capital cost at market interest rates and amortization at 2 % up to 35 years. Subsidy first used to reduce loan amortization and operating cost to lower end of market levels and then to reduce housing charges paid by low-income residents. Subsidy fixed for 3 years, then adjusted such that loan repayments increase 5% per year until the co-operative making full loan repayment without federal assistance. Federal assistance for income-tested occupants increases each year by the amount the operating assistance declines.	Moderate and low-income households. Minimum 15% of project's units available for Rent-Geared-Income households.
1986 - 1991 Co-operative Housing Program	Private 30 year index linked mortgages (ILM) covering 100% of development cost, insured by CMHC. The Federal Co-operative Housing Stabilization Fund provides loan assistance to projects in temporary financial difficulty. Projects in difficulty may also be assisted by the MIF.	Annual index linked subsidy, with the original amount set to equal difference between project loan amortization/ operating cost and market rents. With this subsidy arrangement, loan repayment costs increase at rate of inflation less 2%. Core need households assisted through Rent Supplements.	Households unable to purchase their own home. Maximum 30% in the first 2 years and 50 percent in following years of project's units available for core need households
1986 - 1993 Non-Profit Housing Program	Private 35 year equal payment mortgages covering 100% of development cost, insured by CMHC.	Annual subsidy for units occupied by core need households covered the difference between amortization/ operating costs and project housing charges. Housing charges based on a percentage of household income.	Federal assistance targeted to core need households. Projects in P.E.I., Quebec & Manitoba were fully targeted. Ontario and B.C. stacked assistance with federal assistance to create income mixed projects.

2.3 CO-OPERATIVE HOUSING EXPENDITURES

Total Expenditures 1973 to 2000

Total expenditures for all co-operative housing from 1973 to 2000 were $4.1 billion (in current dollars) for an estimated 1.1 million years of co-operative housing tenure during this period including 516,000 years of low-income housing.[9] Table 2.2 shows that more than half of the expenditures were for projects developed from 1979 to 1985 which make up more than half of the co-operative housing stock.

TABLE 2.2 :
CO-OPERATIVE HOUSING PROJECTS & UNITS BY YEARS OF DEVELOPMENT & TOTAL EXPENDITURES (1973-2000 IN CURRENT DOLLARS) [1]

Years of Development	# of projects	# of units [3]	Total government expenditures (000 $) 1973 to 2000
1973-1978	201	6,616	233,880
1979-1985	1,089	38,715	2,700,284
1986-1991	471	14,434	680,151
1986-1993 [2]	215	5,576	492,055
Total	**1,976**	**65,273**	**4,106,370**

Notes:

1. See Appendix C. Includes: on-going federal and provincial subsidy costs, front-end grants, written-off start-up costs, federal & provincial rent supplement costs, administration & delivery costs for the co-op program and rent supplement program, Community Resource Group Operating Program (CROP), RRAP costs, & any other provincial & municipal subsidies & grants.
2. Includes the cost of federally assisted income-tested units (i.e. rent supplements). The provincial costs of adding non-income-tested units to the federally targeted units in the 1986-1993 FP NP Program are not included.
3. Number of units under portfolio administration by CMHC or provincial housing agencies in 2000 which includes projects with continuing mortgages in 2000 and/or projects receiving financial assistance. These numbers exclude co-operative projects for which mortgages have been paid in full and/or projects that have been sold totaling 2,163 co-operative units.

[9] Includes all expenditures from 1973 to 2000 for all co-operative projects and units developed from 1973 to 1993.

Since 1973, 61 percent ($2.5 billion) of the total expenditures have been spent to reduce the economic cost of co-operative projects and all units in these projects to the equivalent of market or low end of market rent levels (that is, 'supply assistance'). Thirty-five percent ($1.4 billion) of expenditures have been spent to further reduce housing charges for low-income households in co-operative housing units.[10] Program administration expenditures have totaled $109.6 million or 2.7 percent of the total expenditures.[11]

Over time, the 'supply assistance' portion of total expenditures for the co-operative housing portfolio has declined while the low-income portion has accounted for an increasing share of the total. Whereas the 'supply assistance' portion accounted for 80 percent of total expenditures in the period from 1979 to 1985, this portion declined to 73 percent in the period from 1986 to 1991, and to 53 percent in the period from 1992 to 2000. Several factors contributed to this trend including declining mortgage interest rates on mortgage renewals and the lower supply costs under the 1986-1991 (ILM) Co-operative Housing Program as compared with the interest rate write-down to 2 percent under the 1979-1985 (Section 95) program. The shift is also related to the program design of the 1979-1985 (Section 95) program in which the predetermined assistance declines continuously over the first 15 years of project financing and is transferred to income-tested assistance.

[10] The number of low-income units was estimated using data from the Project Manager survey in the 1992 Co-operative Housing Evaluation for the 1973-1979 and 1979-1985 programs. For the 1986-1991 program, number of rent supplement households was used and for the 1986-1993 program all units receiving federal assistance were defined as low income units. See Appendix C.

[11] The remaining 1.3 percent includes start-up assistance and RRAP funding. No costs were included for financial assistance for individual co-operatives from the Mortgage Insurance Fund or the Federal Co-operative Housing Stabilization Fund for ILM co-operatives since these funds are financed through contributions from co-operatives and no net costs to government have been incurred.

Average Annual Expenditures Per Unit of Co-operative Housing by Program (Constant 2000 $)

The average annual expenditure per unit[12] of co-operative housing over the period from 1973 to 2000 was $4,719 (in constant 2000 $). The average varied among the housing programs. (See Appendix C, Table 2.3)

TABLE 2.3 :
AVERAGE ANNUAL EXPENDITURES PER UNIT BY CO-OPERATIVE HOUSING PROGRAM (2000 $) [1]

	1973-1978 Co-op Program	1979-1985 Co-op Program	1986-1991 Co-op Program	1986-1993 FP NP Program	All programs
Average annual cost per unit	2,287	5,051	4,276	8,881	4,719
Average annual cost per unit to reduce economic costs to occupancy cost	1,578	3,524	3,005	4,267	3,188
Average annual cost per low-income unit to reduce economic costs to low-income occupancy charges	2,230	3,195	3,779	4,614	3,327
Average annual cost per low income unit	7,190	10,568	12,708	8,881	10,259

Notes:

1. See Appendix C. Includes the cost of federally assisted income-tested units (i.e. rent supplements). The provincial costs of adding non-income-tested units to the federally targeted units in the 1986 to 1993 FP NP Program are not included.

The lowest per unit annual expenditure ($2,287) was for the 1973-1978 program and the highest per unit annual expenditure ($8,881) was for the 1986-1993 program. For 'supply assistance', the average annual expenditure was $3,188 per unit, ranging from $1,578 per unit in the 1973-1978 co-operative projects to $4,267 per unit in the 1986-1993 co-operative projects. Expenditures per low-income unit averaged $10,259 per year, ranging from $7,190 in 1973-78 projects to $12,708 per year in 1986-1991 projects.

Since the 1979-1985 period, the average annual cost per unit has declined considerably in real terms. In the 1979-1985 (Section 95) portfolio, most projects have reached the 15-year phase-out period for the predetermined assistance and the subsidies have been transferred to income-tested assistance. Since 1995, declining cost per unit is related to declining supply assistance per unit which has more than offset the increased costs per low-income unit.

[12] Average annual per unit expenditures were calculated as the total expenditure for the portfolio (from 1973 to 2000) divided by the total number of years of co-operative housing provided in each portfolio.

3. CO-OPERATIVE HOUSING CONDITIONS & AFFORDABILITY

The evaluation examined the extent to which co-operative housing programs have provided adequate and affordable housing for low- and moderate-income households and resident involvement in their housing projects. Overall, the evidence showed that co-operative housing is well-targeted to low- and moderate-income households and provides adequate, affordable housing although housing costs are a high proportion of household incomes for about a third of co-operative households. Resident involvement in co-operative housing is high (about 90 percent) and much higher than in other tenures.

3.1 PROFILE OF CO-OPERATIVE HOUSING RESIDENTS

Household Types

Co-operative housing serves families with children to a much greater extent than rental and condominium housing. Half of the households in regular co-operatives and two-thirds of the households in the targeted co-operatives are one- or two-parent families with children (under 18 years of age) compared with less than 20 percent of renter households and only a third of condominium households.[13]

Co-operative housing also serves single adults living alone and couples (a third and 15 percent of households in regular co-operatives and 22 and 10 percent of households in F/P Non-Profit co-operatives respectively). However, households without children make up a much smaller proportion of all households in co-operative housing than in rental housing (where these two groups make up over three-quarters of tenants) and condominiums (where these two groups make up nearly two-thirds of owners).

Income Levels & Sources of Income

In 2000, 54.2 percent of regular co-operative households and 70 percent of FP NP co-operative households had annual incomes below $24,000 compared with 26.1 percent of all Canadian households.[14] A quarter of all Canadian households had annual incomes greater than $72,000 in 2000 compared with 10.2 percent of regular co-operative households and 5.9 percent of FP NP co-op households. The median household income in Canada in 2000 was $45,000 compared with less than $24,000 in regular co-ops. Therefore, regular co-ops have a lower income profile than Canadian households as whole although 10 percent are in the highest income quartile of the Canadian income profile. Income profiles of co-operative households and private rental households are similar (according to data from the evaluation survey and the 1996 Census), whereas homeowners (both condominium and freehold[15]) have higher income profiles.

[13] See Appendix A, Table 2.

[14] Incomes of co-operative households based on the Occupant Survey for the Evaluation of Co-operative Housing, 2001. Canadian household incomes based on the Statistics Canada Survey of Household Spending, 2000. (See Appendix A, Table 3).

[15] 'Freehold' is defined as individual homeownership (it excludes condominium and co-operative ownership).

Over half of co-operative residents and renters have employment income compared with 89 percent of condominium residents. In the targeted co-operatives, over 20 percent of residents have incomes from social assistance, as compared with less than 5 percent of renters and no condominium residents with social assistance incomes.[16]

Other Characteristics

The population living in co-operative housing includes a somewhat higher proportion of women (58 percent) than in the Canadian population (51 percent in the 1996 Census). Nearly half of the co-operative households are female single person households (24 percent) or female single parents (24 percent).[17] Seventy-four percent of single person households in co-operatives are women and 90 percent of single-parent households are female-led.

In terms of education, 70 percent of respondents in co-operative households said that they had completed high school, about 50 percent had post-secondary education and 20 percent had a person aged 18 or over attending school, college or university at the time of the survey.[18] The education profile of private rental households surveyed was similar to co-operative households, whereas condominium households surveyed had higher proportions that had completed high school and having post-secondary degrees and certificates. The proportion of households with a person 18 and over attending school was similar for co-operative and condominium households while private rental households had a lower proportion at 12 percent.[19]

Co-operative housing residents are ethnically diverse. Survey data showed that over 11 percent are members of visible minorities, over 20 percent are immigrants and 4 percent are of Aboriginal ancestry.[20]

Survey data also indicated that 12 percent of co-operative housing units were occupied by households that include a person or persons with a long-term physical disability requiring special features such as wheelchair access or other modifications.[21] Over 60 percent of persons with disabilities occupied co-operative units where all or most of the needed accessibility modifications had been made. The 1991 Health and Activity Limitations Survey by Statistics Canada found that 16 percent of Canadians had some level of disability, and the incidence was 32 percent among people 65 and older. The incidence of disabilities in the population are expected to increase as the population ages. Among the Canadian population with disabilities, 69 percent have specialized features to enter and leave their homes, and 46 percent have special modifications they need within their homes.[22]

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[16] See Appendix A, Table 6.

[17] Detailed analysis of survey responses by gender of the respondents may be undertaken using the public use database created by CMHC from the survey data. However, the opinion question data was compiled for the respondents only and does not include opinion data from other members of the households.

[18] See Appendix A, Tables 9 and 11.

[19] The relative education indicators from the 1996 Census by tenure type (Appendix A Tables 10 and 12) reveal similar trends.

[20] See Appendix A, Tables 13, 15 and 16.

[21] See Appendix A, Table 17

[22] See *Evaluation of Housing Initiatives Under the National Strategy for the Integration of Persons With Disabilities*, Audit and Evaluation Services, CMHC, 1998, pp.13-14. For persons aged 65 and over with disabilities, 69 percent had specialized features to enter and leave their homes, and 48 percent had special features they needed within their homes.

Detailed tables on resident characteristics are presented in Appendix A. Table 1 shows the survey sample sizes for co-operatives and comparison samples. Other tables indicate the number of responses to particular questions by sample type. Where such counts are smaller than the sample size reported in Table 1, the difference is caused by respondents who answered 'Do not know' or who provided no answer.

3.2 TARGETING TO LOW- AND MODERATE-INCOME HOUSEHOLDS

Federal programs for funding co-operative housing have used various targeting guidelines. The 1973-78 program allowed for a maximum of 25 percent of the units in family projects and of 50 percent in seniors projects[23] to receive rent supplements for low-income residents, whereas the 1979-1985 program required a minimum of 15 percent of the project's units to be for Rent-Geared-to-Income (RGI) households. In the 1986-1991 program, a maximum of 30 percent of the units could be provided for core need households in the first two years of a project increasing to 50 percent in later years. This program was intended to serve households unable to access homeownership. Co-operatives developed under the 1986-1993 F/P Non-Profit Program include 103 fully targeted co-operatives with 1,653 units in P.E.I., Quebec and Manitoba and 114 projects with 3,857 units in income-mixed projects in Ontario and B.C. where the provinces provided additional assistance for income-mixed units. Therefore, 95 percent of co-operative projects (1,874 of the total 1,977 projects) were developed as 'mixed-income' housing.

Targeting was assessed in two ways: first, at the household level across the portfolios of units as a whole based on indicators of household incomes compared with widely used income thresholds and secondly, at the project level based on the percentages of income-tested units.

Household Income Thresholds

Client income targeting was assessed using the following indicators:[24]

- Second income quintile threshold (Statistics Canada, 1998)
- Homeownership Affordability Limits (HALs, CMHC, 2001)
- Perceived ability to afford homeownership (Evaluation survey, 2001)
- Low-Income Cut-Offs (LICOs, Statistics Canada, 2000
- Core Need Income Thresholds (CNITs, CMHC, 2001)

Income data for all survey respondents was gathered in late 2001 or early 2002. Statistics Canada thresholds were inflated from their reporting dates to 2001 so as to be comparable with respondent income data.

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[23] Of the 223 co-operatives developed under the 1973-1978 program, 5 were for seniors projects and 218 were family projects. See *Evaluation of the Federal Co-operative Housing Programs*, PED, CMHC, February 1992, p.27.

[24] See appendix for definitions of income thresholds. The second income quintile limit was used a benchmark for low and moderate incomes in the 1973-1978 co-operative program. The HALs were estimated by AES for this analysis (See Appendix B, Section 4, for detailed assumptions). CNITs have been used by CMHC as a definition of housing need in targeting housing assistance.

TABLE 3.1 :
PERCENTAGES OF HOUSEHOLDS BELOW MODERATE & LOW INCOME THRESHOLDS

Indicators	Regular Co-ops	FP NP Targeted Co-ops(1)	FP NP Mixed Income Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Below second income quintile threshold	70.0	86.5	87.5	81.4	73.6	79.1	57	31.3
Below homeownership affordability limit (HAL)	79.4	90.3	92.1	90.4	83.4	85.6	75.6	NA
% respondents said unable to buy a home	90.6	91.0	92.4	92.8	87.5	94.4	66.2	NA
Below LICOs	50.3	87.2	64.4	64.4	54.4	71.1	43.6	11.2
Below CNITs	49.6	82.3	71.3	73.6	55.4	75.9	44.7	14.0

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
(1) FP NP Targeted Co-ops in P.E.I., Quebec & Manitoba; FP NP Mixed income co-ops in Ontario & B.C.
NA = Not applicable

These indicators (Table 3.1), based on survey data from the evaluation, show:

- 70 percent of regular co-op households and 87 percent of FP NP co-op households have low- or moderate incomes below the second income quintile limit. The proportions of low- and moderate-income households are higher in co-operatives than in both private rental (57 percent) and condominium housing (31 percent).

- 80 percent of regular co-op households and over 90 percent of FP NP co-op households have incomes below the homeownership affordability limits (HALs) (that is, below the income necessary to qualify for a mortgage to purchase an average priced house).[25] For private renters, 76 percent had incomes below the HALs. The second indicator is residents' perceptions of their ability to buy a home that takes account of other factors such as the availability of funds for a downpayment and the ability to carry a mortgage given other expenses (including items such as child care expenses, other debt payments and living expenses).[26] Over 90 percent of all co-op households said they could not afford to buy a

[25] HALs are a statistical indicator of the income level necessary to qualify for a mortgage with a 5 percent downpayment for an entry level or 'starter' home (low-rise condominium) at average current prices in each region. (See Appendix B, Section 4.1 (2) for assumptions). This indicator does not take into account consumer indebtedness which may affect the ability of a borrower to secure mortgage financing, the availability of funds for the downpayment or the aspirations of purchasers for higher priced homes or locational preferences.

[26] Perceived ability to purchase a home is most reliable among consumers who have up-to-date information on house prices and mortgage financing. This indicator does not necessarily take account of consumer preferences for dwelling type or location.

home right now compared with 66 percent of private renters. However, about 40 percent of co-operative residents said they might be able to buy a home in the future and of those saying they cannot afford to buy a home right now, 70 percent of regular co-operative residents and 85 percent of the F/P non-profit co-operative residents said that they would buy a home if they had the means compared with 62 percent of renters.[27] Therefore, while 20 percent of regular co-operative residents have incomes above the moderate income thresholds to qualify for a mortgage, only 10 percent said that they have the means to purchase a home based on their perceptions of their ability to finance a downpayment and carry a mortgage.

- About 50 percent of regular co-op households have 'low' incomes (below the Statistics Canada LICOs and CMHC's CNITs). The proportions of low-income households are higher in FP NP co-ops. In targeted FP NP co-ops, 87 percent of households have incomes below LICOs and 82 percent have incomes below the Core Need Income Thresholds. The income mixed FP NP co-ops have 64 percent of their households below LICOs and 71 percent below CNITs. The proportions of households in private rental below CNITs (45 percent) are are slightly lower than in regular co-operatives. Condominiums have only 14 percent of households below CNITs.

These data indicate that roughly half of regular co-operative housing residents are low-income households and an additional 30 percent are moderate-income households that cannot afford homeownership. The remaining 20 percent are higher income households that have the ability to purchase a home of their own but have chosen to live in co-operative housing. The FP NP co-ops are more highly targeted to core need households than the other co-ops (71 percent in the mixed income projects and 82 percent in the targeted projects).[28] The proportion below CNITs is higher in the targeted co-operatives than in the targeted non-profit rental projects (76 percent).

Proportions of Rent-Geared-to-Income Units in Co-operative Projects

To assess the achievement of income targeting guidelines at the project level, the survey of co-operative co-ordinators/managers asked how many members in their co-operatives had their housing charges based on their incomes (RGI). Using this approach may tend to somewhat underestimate the proportions of RGI units in co-operative projects to the extent that any vacant units in the projects at the time of the survey may qualify for RGI assistance.[29] It should be noted that whereas the 1979-1985 program had a **minimum** RGI target (of 15 percent), the other two programs had **maximum** RGI targets (of 25 percent in the 1973-1978 program and 50 percent after the first two years of project operation in the 1986-1991 program).

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[27] See Appendix C, Tables 2.2.2 and 2.2.3

[28] Previous evaluations have found less than 100% of households below CNITs in other targeted social housing. Several factors account for the presence of households with incomes above CNITs including increased household incomes after moving into the units which can also be related to changes in household composition.

[29] This evaluation did not examine the extent of vacancy rates in co-operative housing. The 1992 Evaluation found that about a third of co-operatives had units vacant for one month or longer during the previous year, and in these projects less than 6 percent of units were vacant overall (see *Evaluation of the Federal Co-operative Housing Programs*, PED, CMHC, February 1992, pp. 61-62).

The project level targeting results vary by program:

- In the 1973-78 program, the median RGI proportion was nearly 24 percent, and nearly half of the co-ops had met or exceeded the maximum target of 25 percent. Although only 25 percent of units were eligible for rent supplement assistance, co-operatives could subsidize more low-income residents by creating internal subsidies (that is, by higher income residents paying higher charges to create a subsidy 'pool'). At the same time, nearly a third of these co-ops had less than 15 percent RGI. (See Appendix C, Table 2.2.5)
- In the 1979-1985 program, the median RGI proportion was 42 percent and 91 percent of the co-ops had met or exceeded the minimum 15 percent target. A third of these co-ops had more than half their units in RGI.
- In the 1986-1991 program, the median RGI proportion was nearly 40 percent and two-thirds of the co-ops had between the 30 and 50 percent maximum RGI residents. However, 16 percent of these co-ops had exceeded the maximum 50 percent RGI target for the program.

Therefore, half of the co-operatives in the 1973-78 program and 16 percent of those in the 1986-1991 program have exceeded the maximum RGI targets, whereas 91 percent of those in the 1979-1985 program have met or exceeded the minimum RGI target. Overall, about 85 percent of co-operative projects have achieved or exceeded the minimum target RGI level (in the 1979-1985 program) or are within the maximum targets (for the 1973-1978 and 1986-1991 programs). It should be noted that co-operative projects below the minimum RGI target levels are not necessarily non-compliant with their operating agreements since smaller projects[30] in particular can have difficulties maintaining a mix of income levels due to turnover or when resident incomes increase. Over these three programs, 39 percent of the co-operative units were identified as RGI units which exceeds the weighted average RGI target of 25 percent for these programs. Co-operatives developed under the targeted Non-Profit Housing Program had over 80 percent of residents below the Core Need Income Thresholds in 2000.

3.3 HOUSING AFFORDABILITY

Housing affordability was assessed using two indicators:

- private market rents for comparable units based on data from the CMHC Rental Market Survey System (RMSS), October 2001, and
- shelter cost/income ratios (STIR) based on the evaluation survey data.

Based on data for seven metro areas for four types of units (bachelor, one-bedroom, two-bedroom and three-bedroom) for October 2001, the average monthly charges for co-operative housing were lower than average prices for private rental accommodation in all cases except for one-bedroom units in one metro area. In two-thirds of the cases, average co-operative housing charges were between 70 and 80 percent of the private market rental

[30] In the Section 95 (1979-1985) co-operatives, all the projects below the 15 percent RGI target were smaller projects with less than 25 units and half of these had less than 10 units. However, most smaller projects (over 80 percent) had achieved the 15 percent RGI target, and all projects with more than 25 units had achieved the RGI target.

charge and in one-third of the cases, average co-operative charges were between 80 and 91 percent of private rents.[31] In Toronto, average co-op charges were between 73 and 78 percent of market rents and in Vancouver between 74 and 82 percent of market rents. Therefore, compared with average private market rents, co-operative provides affordable housing.

Average shelter cost/income ratios (STIRs) in co-operative housing exceed 30 percent for non-income-tested residents and are over 35 percent for 'income-tested' residents[32] (Table 3.2). Comparable average STIRs for private rental and condominium owners are 39 percent and 33 percent. For income-tested residents, STIRs are higher for households receiving social assistance incomes because the shelter component of their income transfers are identified separately. Therefore, over two-thirds of social assistance residents in all types of housing are paying more than 30 percent of their incomes for shelter. For non-social assistance residents who are income-tested, more than half of residents in regular co-operatives and nearly two-thirds of residents in the FP NP co-operatives spend over 30 percent of their incomes on shelter. The proportions of residents spending over 30 percent on shelter are similar in the unilateral provincial co-operatives and in non-profit rental housing. For non income-tested households, the proportions spending over 30 percent are lower (43 percent in regular co-operatives and 55 percent in FP NP co-operatives). The proportions spending over 30 percent on shelter are similar in private rental and condominium housing (47 and 44 percent respectively).

[31] See Appendix C, Table 2.4.1. Note that these figures are averages and the differences between individual co-operatives' charges and market rents may be higher or lower.

[32] 'Income-testing' of monthly housing charges is based on responses to the Occupant Survey where respondents were asked if their monthly housing charges were based on their incomes.

TABLE 3.2 :
SHELTER COST TO INCOME RATIOS ABOVE 30 PERCENT AND AVERAGE SHELTER COST TO INCOME RATIOS - INCOME-TESTED & NON INCOME-TESTED HOUSEHOLDS

Household type & S/I Ratios	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Income-tested households							
a) with Social Assistance incomes							
More than 30%	67.4	69.5	74.2	66.7	76.2	NA	NA
Average S/I (%)	40.7	35.7	41.1	44.8	41.1	NA	NA
b) non-Social Assistance incomes							
More than 30%	54.4	65.1	65.9	70.4	65.4	NA	NA
Average S/I (%)	36.3	37.9	40	45.3	38	NA	NA
Non Income-tested households							
More than 30%	43.3	54.9	44.8	49.4	*	47.7	44.1
Average S/I (%)	32.9	31.5	34.4	33.7	*	39.4	32.6

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
* Cell sizes too small to report averages

Therefore, based on the 30 percent STIR, co-operative housing is affordable to less than half of co-operative residents. This pattern of a high incidence of affordability problems parallels that found in other housing program evaluations (Non-Profit Housing, Rent Supplement and Urban Native Housing Programs). For example, the 1999 Evaluation of the Urban Social Housing Programs[33] found that 47 percent of the 1986 Non-Profit clients, 51 percent of Rent Supplement clients and 60 percent of Urban Native Housing clients spent more 30 percent of their incomes for shelter. Several factors contribute to higher STIRs including the shelter components of welfare exceeding 30 percent, lags in adjustment of housing charges to declining incomes, higher than prescribed utility charges and inclusion of electricity costs in calculating the STIRs. In co-operatives there is the added factor that the number of subsidized units may be limited (such as by rent supplement agreements or availability of subsidy surplus funds) which means that subsidies are not available for all lower income residents.

[33] See *Evaluation of the Urban Social Housing Programs*, Audit & Evaluation Services, CMHC, December 1999, p. vi.

3.4 HOUSING ADEQUACY

Evaluation findings on the adequacy of cooperative housing are based on self-assessments by occupants of their housing units and on physical inspection visits conducted by professional inspectors. Respondents to the occupant survey were asked the question on housing condition used in the 2001 Census of Canada. The physical condition survey was done on a sub sample of the projects that participated in the occupant and manager surveys. The condition survey excluded parts of the federal cooperative housing portfolio (e.g. projects in the territories and projects in British Columbia that had been identified as experiencing moisture damage from building envelope failure). Consequently, the repair requirements described in the report of the condition survey relate to about 95 percent of the total federal portfolio.

Based on the Occupant Survey and residents' assessments of their dwelling unit conditions, co-operative housing is providing adequate housing. Over 90 percent of residents of co-operative units said that their dwelling units had no major repair needs, and over 90 percent had sufficient space on occupancy standards. In addition, among the 12 percent of units occupied by a person with disabilities, about 60 percent occupied units where all or most of the needed accessibility modifications have been made.[34]

The physical inspection survey conducted in the evaluation[35] estimated the average current cost to bring all co-operative buildings and units up to minimum property standards.[36] Inspectors visited 257 federal cooperative projects and inspected about 1,270 units using a checklist of over 200 building elements. The inspectors determined whether or not building elements met property standards and if not, estimated the repair costs. Total project and portfolio costs were then calculated from sample data. These are finally compared to project replacement reserve funds to describe the financial provisions that have been made for repairs and replacements. It should be emphasized that no attempt was made to project short-term or long-term future repair or replacement needs. The repair cost and reserve fund estimates relate to conditions that were current at the time of the surveys. However, data from a comparable survey conducted by CMHC on cooperative housing in 1990 is reported to give the condition results some temporal perspective.

The condition survey estimated the cost of bringing all cooperative projects up to minimum property standards to be $129 million or $2,082 per unit. Table 3.3 shows the survey results.

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[34] Co-operative units not currently occupied by a person(s) with disabilities may have been modified to improve accessibility but these data were not compiled in this evaluation. The evaluation did not investigate how the accessibility modifications were financed or reasons for the absence of modifications in units occupied by persons with disabilities such as the ability of the co-operative to finance such renovations.

[35] It should be noted that co-operative projects in British Columbia experiencing rain penetration and building deterioration because of building envelop failure were excluded from the physical condition survey.

[36] 'Minimum property standards' were based on local property standards as prescribed in local residential standards and municipal by-laws. In cases where no municipal by-laws existed, inspectors were instructed to rate the buildings and units according to minimum standards used for the Residential Rehabilitation Assistance Program (RRAP).

TABLE 3.3:
CO-OPERATIVE HOUSING PORTFOLIO REPAIR NEEDS IN 2001 BY SELECTED PROJECT CHARACTERISTICS

Project characteristics	# of units	Repair cost		Cost per Unit
		($ million)	(%)	
Federal co-operative housing portfolio	61,909	128.9	100.0	$ 2,082
Program (age)				
NHA Sec. 61 (1973-78)	6,002	10.7	8.3	$ 1,783
NHA Sec. 95 (1978-85)	36,638	85.9	66.6	$ 2,345
NHA Sec. 95 ILM (1986-91)	13,879	22.4	17.4	$ 1,614
NHA Sec. 95 Non-profit (1986-93)	5,390	9.8	7.6	$ 1,830
Project size				
30 units or fewer	16,643	27.9	21.6	$ 1,676
31 units or more	45,266	101.0	78.4	$ 2,231
Development type				
New construction	45,397	103.1	80.0	$ 2,269
Acquired/mixed	16,512	25.8	20.0	$ 1,562
Building type				
Ground oriented	25,011	63.6	49.3	$ 2,543
Apartment	27,652	36.5	28.3	$ 1,320
Mixed	9,246	28.8	22.3	$ 3,115

Source: Evaluation of Co-operative Housing, Physical Condition Survey, 2001-AES, CMHC

The majority of repair costs, $85.9 million or 66.6 percent of the portfolio total, occur in the 1978 program, which comprises about 60 percent of the surveyed portfolio. This is more than its share and this is reflected in the above average per unit repair costs of $2,345. Per unit repair costs for the two post-1985 programs are $200 to $400 hundred dollars less than the portfolio average and their combined share of repair requirements are less than their share of total units. There is no smooth age gradient from the oldest to the newest programs as 1973 projects have per unit repair costs of $1,783. However, as the 1973 sub sample was only 20 projects, this estimate is less reliable than the others. A coarser classification of the two older programs versus the post-1985 programs indicates that on average the older projects have higher repair needs.

Projects of 30 units or less accounted for about 28 percent of portfolio repairs while large projects contributed the remainder. The per unit repair requirements were somewhat higher in larger co-operatives which is contrary to expectations. Additional data would be required to explain the better condition of small projects.

About 73 percent of co-operative units are in projects developed by new construction only. Total repairs for projects developed by new construction were $103.1 million ($2,269 per unit) and for projects developed by acquisition were $25.8 million ($1,562 per unit).

Co-operatives consisting entirely of ground oriented buildings (primarily detached and row housing) had per unit repair needs of $2,543 while apartment projects had repairs of $1,320. This differential is as expected because apartment buildings tend to be built to higher construction standards and contain smaller units than row or detached buildings. Projects containing a mix of apartment and ground oriented buildings had the highest per unit repair costs at $3,115, but this is based on a fairly small sample and is a less reliable estimate.

In addition to estimating repair costs, inspectors rated each building as a whole to assess whether or not it would meet minimum property standards. A building failing this test would be in a seriously deteriorated state since in most cases a few elements need repair while the majority of a building is adequate. Only three percent of co-operative units are in projects with a building that failed the overall condition test.

Most co-operative housing projects make annual payments to capital replacement reserve funds for repairs to their buildings. Projects that have greater repair costs than reserves have a reserve fund deficit. Those with greater reserves than costs have a surplus. Table 3.4 compares portfolio repair costs and cash in replacement reserve funds. CMHC does not maintain data on reserve funds for the post 1985 non-profit projects so they have been excluded from this analysis.

TABLE 3.4 :
COMPARISON OF REPAIR NEED LIABILITIES & REPLACEMENT RESERVE ASSETS

Project characteristics	# of units	Repair cost	Replacement Reserve funds	Reserve fund Surplus (deficit)	Surplus (deficit) per unit
		($ million)	($ million)	($ million)	($)
Portfolio total	56,519	$119.0	$128.4	$9.2	$163
Projects in surplus	31,067	$29.3	$91.5	$62.1	$1,999
Projects in deficit	25,452	$89.7	$36.8	$52.9	($2,078)
Projects with deficit greater than $5,000	2,807	$22.1	$2.4	$19.6	($6,982)
Projects with deficit between $1000 and $4,999	13,068	$53.8	$23.9	$30.0	($2,296)
Projects with deficit between $1 and $999	9,577	$13.8	$10.5	$3.3	($252)
Projects with surplus between $0 and $1,000	10,898	$13.5	$17.9	$4.4	$403
Projects with surplus between $1,001 and $5,000	17,370	$13.5	$53.8	$40.3	$2,320
Projects with surplus greater than $5,000	2,799	$2.3	$19.7	$17.4	$6,216

Note: Column sums or row differences may not agree due to rounding.
Source: Evaluation of Co-operative Housing, Physical Condition Survey, 2001-AES, CMHC

In the 2001 financial statements, the total of replacement reserve funds for all housing co-operatives was $128.4 million or about $9.2 million more than estimated repair costs. However, at the project level, 45 percent of all co-operative units are in projects that have insufficient reserve funds to meet the repairs they require.[37] Projects with insufficient reserve funds have a total deficit of $52.9 million or $2,078 per unit. Projects with the most serious shortfalls (exceeding $5000 per unit) have a collective deficit of $19.6 million dollars spread over 2,807 units. Those with deficits of over $1000 per unit have a collective deficit of $30 million spread over 13,068 units. The remainder of the portfolio of more than 40,000 units have either minor deficits or surpluses. Projects in surplus have surpluses of $1,999 per unit.

[37] It should be noted that these estimates exclude the remediation costs for co-operative projects in British Columbia experiencing rain penetration and premature building deterioration because of building envelope failure.

A comparable analysis of repair costs and reserve fund balances was conducted in 1990 for the Evaluation of the Federal Co-operative Housing Programs (CMHC, Ottawa). At that time, repair costs averaged $1,179 per unit and reserves were $877 per unit. Total repair costs were $58.2 million and reserves were $43.3 million. The portfolio (exclusive of the non-profit co-operatives) had an overall deficit of $14.9 million or $302 per unit. Fifty-four percent of units were in projects with deficits. In 1990, surpluses averaged $1,022 per unit and deficits averaged $1,411 per unit. The per unit deficits of projects in deficit have increased from $1,411 to $2,078, or by 47 percent, but surpluses have increased by 96 percent. Inflation from 1990 to 2001 was about 25 percent.

These findings indicate that the majority of co-operative projects have sufficient funds on hand to address current repair needs. While per unit portfolio repair costs have risen by 79 percent since 1990 (or by 43 percent in real terms allowing for inflation), total dollar reserve funds have nearly tripled and the proportion of the portfolio in projects with reserve fund deficits has declined (from 54 percent in 1990). However, 45 percent of the portfolio is still in projects which have reserve fund deficits in 2001, and the per unit deficits have increased by more than the inflation rate since 1990. These projects will need to generate additional revenues or borrow funds to maintain housing conditions. The ability to generate more revenues through increased housing charges (to cover the costs of repairs and/or to pay debt financing expenses) will vary depending on rent levels and vacancy rates in the local private housing market.

Housing Stock Utilization by Unit Sizes

Occupancy standards are used to assess the suitability of the housing stock for the resident households. They identify the incidence of crowding and the extent to which households occupy units larger than the standard. Standards vary from simple indicators (such as persons per room or persons per bedroom) to more comprehensive measures taking account of household composition such as the National Occupancy Standard (NOS). The NOS is a normative standard that defines bedroom requirements based on the number, age, relationship and gender of household members. The NOS recommends that each adult in a household have a bedroom unless cohabiting with a spouse, in which case a bedroom may be shared with a spouse. A maximum of two children of the same sex may share a bedroom and children of opposite sex may share a bedroom only if they are less than 5 years of age. Although the NOS is not explicit about bachelor units, a bachelor unit is considered acceptable for a one-person household. This standard has been used by CMHC and provincial housing agencies to determine eligibility for social housing and the size of unit required by residents.

Based on the NOS, less than 10 percent of co-operative units were crowded (that is, occupants have less space than the normative standard). Over 35 percent of regular co-operative housing residents and over 40 percent of FP NP co-operative residents have the number of bedrooms equal to the NOS for their household composition.

Assuming that bachelor units are acceptable for one-person households, about half of the co-operative households occupy units with more bedrooms than the NOS standard. The majority (about 40 percent of regular co-operative and 30 percent of FP NP co-operative households) have one bedroom more than the standard, although 20 percent have two or

more bedrooms above the standard. (Table 3.5) The patterns of space occupancy are similar for both income-tested and non income-tested households in both regular co-operatives and the FP NP co-operatives. The trends have been stable over the past decade. The 1992 evaluation found that about 50 percent of residents in co-operative units occupied more space than the NOS criteria.[38] However, it should be noted that the patterns of space occupancy are similar for households in non-profit rental housing where half of the income-tested households and half to two-thirds of the non income-tested households exceed the NOS standards.

An additional indicator of the match between numbers of persons in households and the numbers of bedrooms is shown in Appendix C, Table 2.3.6. This analysis does not take into account the household composition (that is, that two adults in the household may be a couple and sharing a bedroom), or the age and gender of children (some of whom may be sharing bedrooms). These data indicate that 25 percent of regular co-operative households and 20 percent of FP NP co-operative households have more bedrooms than persons in the household. These figures compared with 19 percent of non-profit rental, 28 percent of private rental and 38 percent of condominium households. At the same time, higher proportions of co-operative households than private rental households have more persons than bedrooms.

Several factors need to be considered in interpreting these indicators:

- Data from the Occupant Survey show that 32 percent of co-operative units were one-person households. Analysis of the co-operative stock by bedrooms showed that bachelor units comprise only 1.3 percent of all units.[39] Therefore, two-thirds of the households occupying units above the NOS standard consist of one-person households and there are insufficient smaller units in the stock to accommodate these residents.

- There are not sufficient one-bedroom units in the co-operative housing stock to accommodate the proportions of one-person households and couples without children. These two groups made up 48 percent of co-operative households according to the Occupancy Survey data, while the percentage of one-bedroom units was only 15.5 percent. Therefore, two-thirds of these smaller households have to occupy two-bedroom or larger units.

- Housing co-operatives projects were developed mainly as family housing and include a mix of predominantly two- and three-bedroom units (38 percent and 40 percent of the stock respectively) with a few larger units (5 percent with four or more bedrooms). As household sizes decline over time (due to family dissolution, death of a spouse or children leaving home), there are insufficient smaller units within the co-operatives to allow for adjustment in the size of unit occupied unless households move out of the project.

[38] See Evaluation of the Federal Co-operative Housing Program, PED, CMHC, February 1992, Table 6.23, p.115.
[39] See Table 2.3.7, Appendix C, Unit Size Distribution of the Co-operative Housing Stock.

- In the case of income-tested households, provincial housing agencies have guidelines for the unit size eligibility for subsidies. Although these households may occupy larger units, the unit subsidy is calculated based on the cost for the unit size required by the household. Households in larger units may pay the differences in their monthly housing charges which results in higher shelter cost to income ratios for these households in subsidized units. The Occupant Survey data (Table 3.5) show that there are 30 to 50 percent of income-tested households in non-profit rental that also occupy units above the NOS standard which are similar to the patterns in the co-operative units.

- In the case of non income-tested households that pay the 'market rent' for their housing, households may choose to occupy a larger unit and pay a higher monthly housing charge. In the private sector, more than 70 percent of households occupy more space than the NOS based on the Occupant Survey (75 percent of private rental and 72 percent of condominium occupants). Based on these data, the co-operative housing stock has a better match of unit sizes to household sizes than in private units.

Co-operative housing is providing suitable housing with less than 10 percent of the stock being over-crowded. At the same time, the stock unit-size profile is not well-matched with the household size profile and, as a result, small (one- and two-person) households are occupying units with two or more bedrooms. This represents a challenge for the efficient utilization of the co-operative housing stock.

TABLE 3.5 : PROPORTION OF HOUSEHOLDS BY NATIONAL OCCUPANCY STANDARD INCOME-TESTED & NON INCOME-TESTED HOUSEHOLDS							
Responses	**Regular Co-ops**	**FP NP Co-ops**	**Unilateral Provincial Co-ops**	**Mixed Income Non Profit Rental**	**Targeted Non Profit Rental**	**Private Rental**	**Condo-minium**
Income-tested							
Crowded (below NOS)	5.3	6.0	4.9	6.6	8.7	N/A	N/A
Equal to NOS	29.8	44.9	59.9	50.8	40.0	N/A	N/A
Exceed NOS by 1 bedroom	43.5	34.1	32.8	32.8	34.7	N/A	N/A
Exceed NOS by 2 bedrooms	15.9	12.8	2.0	8.3	14.0	N/A	N/A
Exceed NOS by 3+ bedrooms	5.5	2.1	0.4	1.6	2.7	N/A	N/A
Non income-tested							
Crowded (below NOS)	7.5	7.0	11.4	2.8	5.9	4.7	5.9
Equal to NOS	39.4	42.7	54.3	33.3	42.2	19.9	22.8
Exceed NOS by 1 bedroom	36.8	28.6	30.0	44.4	32.4	48.7	38.1
Exceed NOS by 2 bedrooms	13.1	16.1	4.3	17.6	17.6	25.1	22.3
Exceed NOS by 3+ bedrooms	3.2	5.7	0	1.9	2.0	1.6	10.9
Sample size	*1,961*	*480*	*365*	*206*	*212*	*243*	*269*
Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC)							

3.5 RESIDENT INVOLVEMENT IN HOUSING

The evaluation found high levels of resident involvement in co-operative housing and satisfaction with the ability to influence decisions about their housing.

Survey results showed that close to 90 percent of co-operative residents have participated in their housing at some time, more than 90 percent in meetings, over 80 percent in committee work, two-thirds in maintenance work, a third in office work and over 40 percent in other activities. Participation rates for residents in all other types of housing are much lower; for example, 3 percent in private rental and 37 percent in condominium housing said they had ever participated (Table 3.6).

TABLE 3.6:
RESIDENT PARTICIPATION IN THEIR HOUSING & TYPES OF ACTIVITIES [1]
(PERCENTAGES EVER PARTICIPATED & PERCENTAGES OF PARTICIPANTS BY TYPES OF ACTIVITIES)

Activities	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
% EVER participated	88.9	89.8	91.7	4.4	17.1	3.3	36.6
OF EVER Participated: %: Committee work	82.5	84	82	*	56.7	*	51.8
Attending meetings	95	92	97.3	*	72.7	*	87
Maintenance Work	67.3	67.8	63	*	*	*	35.4
Office work	32.1	32.2	26.6	*	*	*	21
Organizing social events	49.2	45.4	37.2	*	36.7	*	16.9
Selection of residents	41.5	41.8	39.5	*	*	*	1.3
Leadership[2]	50.1	46.3	46.2	*	28.1	*	49.4

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
(1) Any member of the household ever participated in unpaid activities in the housing where they currently live.
(2) Leadership is defined as membership of a co-operative Board of Directors or of a tenant or condominium association executive.
* Cell sizes too small to report averages

Co-operative residents reported an average of about 8 hours per month in unpaid activities for their co-operative (the median was 3 hours per month). In comparison, the one-third of condominium owners participating reported an average of 2.5 hours per month (the median was 1 hour per month). Higher time contributions to their housing for co-operative residents than for condominium and renter households is consistent with data from the 1996 Census. The patterns of unpaid domestic work for co-operative residents closely parallel the patterns for regular homeowners (freehold).

Of those co-operative residents who have participated in their housing, 75 to 80 percent said that they benefited from participation:

- 65 to 70 percent said that they gained ability to influence decisions about their housing.
- About 60 percent were satisfied with their ability to influence their housing costs and decisions about repairs or improvements.

Controlling for housing types and socio-demographic variables, co-operative residents were more satisfied with their ability to influence decisions about housing costs than renters and more satisfied with their ability to influence decisions about repairs than non-profit renters. However, condominium owners are as satisfied as co-operative residents with their ability to influence decisions about housing costs and repairs. Private renters are as satisfied as co-operative residents with their influence on repairs and improvements.

The evidence shows a high degree of participation, democratic control and satisfaction with influence over decisions in co-operative housing which is not as evident in condominium housing and private rental housing.

4. BENEFITS OF CO-OPERATIVE HOUSING

The evaluation examined the extent to which co-operative housing provides benefits to its residents in terms of improvements in:

- Security of tenure
- Quality of life
- Skills development

The evaluation did not attempt to measure societal benefits directly. Benefits to society at large might be inferred from the achievement of benefits to the occupants of co-operative housing through increased social and economic stability, independence and productivity.

The evaluation found positive benefits for co-operative housing residents in security of tenure and quality of life. Co-operative housing residents experienced similar improvements in skills development to households in other housing tenures.

4.1 SECURITY OF TENURE

As discussed in the 1992 *Evaluation of the Federal Co-operative Housing Programs*, households in co-operative housing are likely to have more security of tenure than households in private rental housing because of various financial safeguards, protection from project conversion or demolition, and member protection from eviction.[40] These safeguards include: the availability of project financial assistance (through the MIF and the Federal Co-operative Housing Stabilization Fund for ILM co-operatives), additional financial aid for households that experience a decline in their incomes (through subsidy surplus funds in 1979-86 co-operatives) and the Security of Tenure Funds (in 1986-1991 co-operatives) or opportunities to receive rent supplement assistance in their current units, requirements to fund capital reserve funds to cover major capital repairs and avoid large increases in monthly housing charges, long-term (35 year) Operating Agreements that preclude the sale or conversion of the co-operatives, and more legal protection[41] from eviction. These factors reduce the risks of loss of a co-operative dwelling for both economic and non-economic reasons.

[40] See: *Evaluation of the Federal Co-operative Housing Programs*, PED, CMHC, February 1992, pp 36-37.

[41] In most instances, residency in housing co-operatives is not governed under landlord and tenant protection legislation. Termination of residency in co-operative housing is generally a more lengthy process than eviction processes in private rental housing.

Security of tenure is assessed using indicators such as length of tenure in the same housing, satisfaction with the ability to stay in the same housing, and occupant feelings of being settled and able to make a home where they live (Table 4.1).

TABLE 4.1:
SECURITY OF TENURE INDICATORS BY TENURE TYPES

Indicators	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
% satisfied with ability to stay	92.9	88.1	86.2	86	84.1	88.6	87.6
% feeling settled & able to make home	57.1	61.7	60.3	44.6	56.9	40.5	61
Length of tenure (% lived at same address 5 yrs ago[1])	49	N/A	N/A	55	NA	30	46
Median length of tenure in years [2]	6.2	4.1	2.6	5.3	3.7	4.2	*
% less than 3 years tenure	31.4	41.4	56.7	37.8	45.1	44.2	*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
(1) 1996 Census, special tabulations.
(2) Medians are affected by the year of development of the stock under the different housing programs.
N/A = not available
* Sample frame for condominium was purchasers from 1998 to 2001.

These indicators showed longer average tenure and higher proportions of residents feeling settled in co-operative housing versus private rental and similar rates for co-operative and condominium residents. These results were confirmed in a multi-variate analysis that controlled for socio-economic variables to compare households with similar characteristics among tenure types. For example:

- 1996 Census data showed higher proportions of co-operative residents had lived in their housing for 5 years or more than private renters (49 percent compared with 30 percent). The rates for co-operative and condominium owners are similar (49 and 46 percent respectively), but lower than for freehold (i.e. regular individual) homeowners (71 percent of freehold owners had lived in their housing five years ago). The Occupant Survey showed longer median length of tenure (6.2 years in regular co-operatives versus 4.2 years in private rental) and lower turnover rates (with 31 percent of regular co-op residents having less than 3 years of tenure compared with 44 percent in private rental).

- analyzing length of tenure by income ranges showed that households in the lowest income range (under $18,000 annual income) and households in the upper income range (over $60,000 annual income) tend to stay longer in their housing in both co-operative and private rental than moderate-income households. Nearly 5 percent of regular co-operative residents with annual incomes under $18,000 and 6 percent of those with incomes over $60,000 had lived in their regular co-operatives for 20 years or more. In FP NP (1986-1993) co-operatives, nearly 15 percent of those with incomes under $18,000 and 18 percent of those with incomes over $60,000 had lived in their co-operatives for 10 or more years. These data suggest that co-operative housing is providing security of tenure at all income levels and that turnover is higher within the moderate-income ranges.

- evaluation survey data showed that co-operative households feel more settled and able to make a home than renters (57 percent compared with 41 percent). The rates for co-operative and condominium owners are similar (61 percent for condominium owners).

- controlling for household characteristics, co-operative households are more satisfied with their ability to stay in their housing as long as they wish than renters with similar characteristics. The analysis found comparable satisfaction rates for co-operative and condominium households with similar characteristics.

- controlling for household characteristics, co-operative households experienced more improvement since moving into their housing in feeling settled than renters with similar characteristics. The analysis found comparable improvement rates for co-operative and condominium households with similar characteristics.

Based on these indicators, the evaluation found that co-operative housing has improved security of tenure for the occupants as compared with rental housing (both private and non-profit rental) and provides comparable security of tenure to condominium ownership.

4.2 QUALITY OF LIFE

Social interaction, social relationships and social supports in the residential environment can enhance quality of life. Mixed income communities may also enhance social relationships among people of different social and economic backgrounds. The accepted methodology in the literature measures quality of life using 'outcome' indicators such as improved social supports, sense of community, relationships with friends and neighbours, feelings of independence and ability to cope, and family relations. Table 4.2 summarizes indicators of quality of life and the perceived improvements in social relationships since moving into the current dwellings.

TABLE 4.2 :
QUALITY OF LIFE INDICATORS BY TENURE TYPES
(PERCENTAGE OF RESIDENTS REPORTING)

Indicators	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Gained more friends & strengthened personal support (1)	76.9	73.2	77.3	*	*	*	46.6
Satisfaction with sense of community with other residents (2)	75.8	68.3	68.8	64.7	65.4	67.8	57
Improved relationships with friends & neighbours (3)	49.2	44.3	47.4	34.4	39.3	30.3	29.7

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
(1) Includes of those who participated and said they had benefited from participation
(2) Percentage Very satisfied or somewhat satisfied
(3) Percentage saying improved since moving into current dwelling
* Cell sizes too small to report averages

Based on these indicators, co-operative housing has improved the quality of life for the occupants as compared with other housing:

- Participation in their housing leads to improved social support for co-operative residents. Three-quarters of co-operative residents who participated and reported benefits (compared with half of condominium residents) said they had gained more friends and strengthened personal support.

- Co-operative residents were more satisfied with the sense of community where they live than residents in other types of housing. After controlling for socio-economic variables,[42] co-operative residents were more satisfied than condominium owners and non-profit renters with the sense of community with other residents (76 percent of regular co-operatives, 57 percent of condominium owners and 65 percent of non-profit renters). Private renters were equally as satisfied with their sense of community as co-operative residents.

- More co-operative residents reported improvements in relationships with friends and neighbours since moving into their current housing (45 to 50 percent) than private renters and condominium owners (30 percent). Controlling for socio-economic variables and length of tenure, co-operative residents were more likely to have improved relationships with friends and neighbours than private renters and condominium owners. About half of co-operative residents said that relationships with friends and neighbours had improved since moving into their housing compared with 30 percent of renters and condominium owners. Non-profit renters were as likely to have these improvements as co-operative residents.

Controlling for household characteristics and length of tenure,[43] co-operative residents were more likely to perceive improvements in feelings of independence and security than private renters (Table 4.3). There were no differences between co-operative and condominium residents who had similar characteristics on any of the social impact indicators. With respect to indicators on time spent with family, children's happiness and school performance there were no differences between co-operative and residents in all other tenure types.

TABLE 4.3:
SOCIAL IMPACTS OF CO-OPERATIVE HOUSING VERSUS OTHER TENURES

	Non-profit Rental	Private Rental	Condominium Owner
Feeling independent and able to cope	**As likely** as coops	**Less likely** than coops	**As likely** as coops
Feeling secure	**Less likely** than coops	**Less likely** than coops	**As likely** as coops
Time spent with the family	**As likely** as coops	**As likely** as coops	**As likely** as coops
Children's happiness	**As likely** as coops	**As likely** as coops	**As likely** as coops
Children's school performance	**As likely** as coops	**As likely** as coops	**As likely** as coops

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001- AES, CMHC

[42] Regression analysis controlled for household type, region, education, immigrant & visible minority status, income source and income level, age, & length of tenure.

[43] See Footnote 38.

The main impacts on quality of life for co-operative residents versus residents in other tenures are in increased social support, sense of community, improved social relations with friends and neighbours, and feelings of independence and security. There were no significant differences on indicators for family life and children. This analysis did not control for other variables that may impact on perceived quality of life such as the type of housing, location or the perceived financial security of social housing.

4.3 SKILLS DEVELOPMENT

Residents in co-operative housing may develop skills through participation and stability in their housing that improve their employment prospects and economic well-being. The evaluation examined indicators such as acquiring new skills, enrolling in or completing education courses, getting new jobs, starting a business, beginning to work outside the home and increased volunteer work.

Varying proportions of residents in all types of housing including co-operatives reported improvements on this range of indicators:

- 24 percent of co-operative residents who participated said they had acquired new financial skills compared with 14 percent of condominium owners; 58 percent said they had gained organizational experience and 75 percent said they had improved skills in working with others. Smaller proportions of condominium owners also reported improvements.[44]

- since moving into their dwelling, over 40 percent of co-operative residents reported skills development and increased volunteer work and about one in five reported other impacts such as enrolling in education courses, getting a new or better job and starting work outside the home. Smaller proportions of residents in rental and condominium housing reported these types of improvements.[45]

Although co-operative residents report improvements on these indicators, residents in other housing also experienced improvements. Regression analysis controlling for socio-economic variables[46] showed that residents in other tenures were as likely as co-operative residents to report economic impacts on 11 of the comparative indicators and more likely to report impacts on 5 of the comparative indicators (Table 4.4). Co-operative residents reported greater improvements than residents in other tenures on 5 of the comparative indicators. These data suggest that co-operative housing residents achieved similar improvements in skills and economic well-being to residents in other types of housing.

[44] See Appendix C, Table 3.3.1.
[45] See Appendix C, Table 3.3.2.
[46] See Footnote 38.

TABLE 4.4:
ECONOMIC IMPACTS OF CO-OPERATIVE HOUSING VERSUS OTHER TENURES

	Non-profit Rental	Private Rental	Condominium Owner
Acquired new skills or improve old skills	**Less likely** than coops	**As likely** as coops	**As likely** as coops
Enrolled in formal education courses	**More likely** than coops	**More likely** than coops	**As likely** as coops
Completed educational qualifications	**More likely** than coops	**As likely** as coops	**As likely** as coops
Got a new or better job	**As likely** as coops	**More likely** than coops	**Less likely** than coops
Started their own business	**As likely** as coops	**As likely** as coops	**As likely** as coops
Begun to work outside the home	**As likely** as coops	**More likely** than coops	**Less likely** than coops
Volunteered time	**Less likely** than coops	**As likely** as coops	**Less likely** than coops

Source: Evaluation of Co-operative Housing, Regressions based on Occupant Survey data, 2001 - AES, CMHC

5. COSTS OF CO-OPERATIVE HOUSING

5.1 CAPITAL AND OPERATING COSTS OF CO-OPERATIVE HOUSING

Comparative analysis of the capital and operating costs of co-operative and other housing types (including private rental and condominium) requires data to compare projects of similar sizes and locations. Insufficient detailed data were available to allow for cost analysis of comparable projects. Cost analysis using averages across the stock or portfolios of units was undertaken but the lack of control variables limited the comparability of the results for private rental and condominium housing. Therefore, only the costs for co-operative and non-profit rental[47] are sufficiently rigorous for reporting purposes.

Although project size, location and type of development (new or acquisition) variables are not taken into account, estimated capital and operating costs for co-operative and non-profit rental housing were all weighted to account for different unit sizes in each type of housing using the average number of bedrooms per unit from the Occupant Survey[48]. It should be noted, therefore, that the capital costs below do ***not*** represent the average capital costs of actual units and that those varied according to the unit sizes and mixes of unit sizes in the portfolios.

The standardized average per unit capital cost (including delivery cost but excluding property taxes[49]) of co-operative housing was $50,000 to $51,000 (2000 $) which was lower than comparable unit capital costs in non-profit rental housing (Table 5.1). The standardized average annual per unit operating costs (including maintenance, administration, utilities, other costs[50] and the imputed value of resident volunteer labour[51]) for co-operative housing was close to $1,600 (2000 $), compared with $1,900 for non-profit rental. Operating costs include both project level and occupant costs for utilities and repairs and maintenance but exclude property taxes.[52] Co-operative housing costs were about 14 percent lower than costs in non-profit rental housing.[53]

[47] Non-profit rental refers to NHA Section 56.1 Non-Profit Rental Housing.

[48] Mean numbers of bedrooms per dwelling were 2.349 in ILM co-op, 2.43 in Section 56.1 co-op and 1.89 in Section 56.1 non-profit rental.

[49] Property or realty taxes were excluded from the cost analysis in all tenure types because they can vary significantly as a function of location and are not a good measure of municipal resources paid for or used.

[50] 'Other costs' include items that were not included in maintenance or administration costs, namely, audit, garbage removal, snow clearing, janitorial, legal and professional fees.

[51] See Appendix C Section 4.2 for discussion of imputed value of volunteer labour and references to relevant literature.

[52] These cost figures are not directly comparable with those in the 1992 Co-operative Housing Evaluation Report which were based on project-level costs only and did **not** include additional costs paid directly by the occupants.

[53] Estimated costs for non-profit housing included the imputed value of resident volunteer time but do **not** include the imputed value of non-resident Board member time in project operations and management due to lack of data. Therefore, the costs of non-profit rental housing are understated to the extent that there is input of non-resident labour, and the cost differential for co-operative housing would be higher.

TABLE 5.1:
STANDARDIZED AVERAGE PER UNIT CAPITAL COST, OPERATING COST & PRESENT VALUE OF 50 YEAR TOTAL PER UNIT COSTS FOR CO-OPERATIVE & NON-PROFIT HOUSING (2000 $) [3]

Types of costs	ILM Co-op	56.1 Co-op	56.1 NP Rental
Capital costs/unit	$50,705	$50,138	$56,707
Operating costs/unit			
• Direct costs [1]	1,456	1,401	1,822
• Volunteer time costs [2]	163	237	63
Total Operating costs/unit Direct cost + Volunteer time	1,619	1,638	1,885
Present value 50-yr average capital & operating costs/unit			
• Direct costs	77,518	75,884	89,462
• Direct costs + Volunteer time	80,537	80,255	90,631

(1) Including utility & repair & maintenance costs paid at the project level (from 1994 AGRSHRX database, CMHC, the latest year for which complete co-operative project financial data was available) and costs paid directly by the occupants excluding property taxes (from 2001 Occupant Survey, AES, CMHC).
(2) Based on data from 2001 Occupant Survey, AES, CMHC, for resident volunteer time contributions.
(3) All costs standardized based on the mean number of bedrooms per unit.

Standardizing for unit size, the present value of 50-year average capital and operating costs (at a 5 percent discount rate) for co-operative housing was about $80,000 per unit (2000 $) compared with about $90,000 per unit for non-profit rental housing. Therefore, the costs were roughly 11 percent lower for co-operative versus non-profit rental housing.

5.2 PROJECTS IN FINANCIAL DIFFICULTIES

In 2000/01, 15 percent of co-operative housing projects developed from 1973 to 1991[54] (238 co-operatives) were identified as being in financial difficulty (where 'difficulty' is defined as receiving workout assistance from the government, the Mortgage Insurance Fund or the Federal Co-operative Housing Stabilization Fund for ILM co-operatives, going through the workout process to resolve the financial difficulty, or being identified by CMHC and provincial portfolio managers as being at risk of needing workout assistance). Of the 238 co-operative projects experiencing financial difficulties, 26 percent were identified as being at risk of requiring workout assistance,[55] 28 percent were going through the workout process to resolve financial difficulties, and 46 percent were operating under workout agreements that are monitored for the term of the agreement by the responsible portfolio administration

[54] Co-operatives developed under the 1986-1993 Non-Profit Housing Program were not included in this analysis because they receive a full subsidy of the difference between economic cost and revenues from housing charges and are therefore unlikely to encounter financial difficulty.

[55] Criteria for identifying projects 'at risk' of requiring workout assistance included factors such as: existing cash flow/operating deficits and/or accumulated deficits over several years of operation, major arrears on revenues, high vacancies, major repair needs and shortages of reserve funds, use of reserves to fund operating expenses, inadequate revenue to pay second mortgages on property, limited ability to increase revenues through higher housing charges in relation to market rents, and on-going deferred maintenance and repairs.

authorities. Other types of 'difficulties' (such as physical problems with buildings due to design, construction or repairs, social problems within co-operatives or external factors such as unfavourable market conditions) were included in the analysis as contributory factors in projects experiencing financial difficulties.[56]

Co-operative housing projects were more likely to be experiencing financial difficulty than non-profit rental projects (117 non-profit rental projects or 5 percent of the total of 2,341 projects analyzed) (Table 5.2). Co-operative projects developed under the 1986-1991 co-operative housing program were 12 times more likely to be in difficulty than co-operatives developed under the 1973-1978 co-operative housing program.

TABLE 5.2 :
CO-OPERATIVE AND NON-PROFIT HOUSING PROJECTS IN FINANCIAL DIFFICULTY IN 2000 BY YEAR OF PROGRAMS*

	Total Number of Projects		% of Projects in Financial Difficulty	
Program years	**Co-op**	**Non-Profit Rental**	**Co-op**	**Non-Profit Rental**
1973-1978	171	537	2.3%	2.6%
1979-1985	964	1,804	13.5%	5.7%
1986 -1991	432	N/A*	24.1%	N/A

Source: Based on data from CMHC program administration files and information from CMHC and provincial housing portfolio managers. AES, CMHC, 2000

*Non-profit projects initiated between 1986 and 1991 and co-operative projects funded under the fully-targeted Non-Profit Housing Program (1986-1993) receive a full subsidy of the differences between economic cost and revenues from housing charges. They were *not included* in this analysis because they were unlikely to encounter financial difficulty.

Factors related to co-operative projects in difficulty were examined using survey data and regression analysis.[57] Overall the analysis concluded that many factors are associated with projects in difficulty (that is, there is no single major factor).

[56] A study of housing co-operatives in Quebec in 2002 (*'Crisis Situations in Co-operatives: Better Interventions Hinge on a Better Understanding'* by Confédération québécoise des co-opératives d'habitation, April 2002) analyzed a broad range of physical, economic and social difficulties by surveying co-operatives. It found that 24% of Quebec co-operatives had 'economic difficulties' related to factors such as lack of reserves, accumulated deficits, non-payment of housing charges, arrears, and lack of realistic budgets. This study's definition is somewhat broader than the definition used in the evaluation and includes situations that may not result in the need for outside financial assistance.

[57] Data from Surveys of Co-operative Board members (sample size = 2,675) and co-operative managers (sample size = 268), and data from the Physical Condition Survey conducted for the evaluation. Housing market data was obtained from CMHC surveys and the 1991 and 1996 Census data were used to examine socio-economic variables. Multiple regression analysis included data from 99 co-operatives including 30 projects identified as being in difficulty. The 30 projects in difficulty are representative of the universe of co-operative projects and of the 238 co-operative projects in difficulty in terms of project size, but over represent the smaller provinces and under represent Ontario and Quebec in terms of geographic distribution. The provincial distribution is a function of respondents to the project manager survey.

- **Survey data indicate a wide range of internal and external factors were related to co-operatives in financial difficulty.** The four major reasons identified by project managers for their co-operatives' financial difficulties were unforeseen repairs (14.9 percent), high vacancies due to a housing market slump (13.9 percent), member arrears (12.4 percent) and catching up on deferred maintenance (11.4 percent). Together these four factors are associated with over half of the projects in difficulty. Univariate correlation analysis suggested that co-operatives in financial difficulties were more likely than those not in difficulty to have repair needs related to construction or design problems, less experienced managers (fewer years of experience), higher arrears and vacancies, and to have lower reserve fund balances. The Boards of co-operatives in financial difficulty had less experience and were less likely to carry out financial monitoring. Member participation in meetings and other volunteer work were lower in co-operatives in financial difficulty than in those with no difficulties. External factors related to co-operatives in difficulties included market conditions such as lower market rents, lower house prices and slower population growth.

- **Multiple regression analysis (to control for correlation among the variables) found that both external (market condition) and internal (project condition and management) factors are related to projects in difficulties.** However, with the data available, only five of the variables tested[58] were significant and only about a third of the incidence of projects in difficulty was accounted for in this analysis. These results suggest that there are many other variables affecting the likelihood of projects experiencing financial difficulties and that 'predicting' the probability of a project encountering problems is difficult.

These results suggest that preventative and/or remedial measures to address the problems of projects in difficulty need to be broadly based and take account of the specific conditions in individual co-operatives.

[58] Significant variables were: a proxy for market conditions, construction/design problems, reserve funds per unit, project age, and absence of a financial subcommittee of the Board.

6. CONCLUSIONS

The 1,976 co-operative housing projects with 65,273 housing units financed under federal programs since 1973 that continue to receive financial assistance in 2000 are providing adequate, affordable housing for low- and moderate-income households with additional benefits such as improved security of tenure and quality of life. However, more than half of co-operative residents spend over 30 percent of their incomes for shelter. About 85 percent of co-operative projects have achieved or exceeded minimum target levels of rent-geared-to-income (RGI) households or are within the maximum target RGI levels for the programs. Government expenditures for co-operative housing are enabling households that would otherwise not be able to afford alternatives to rental housing to achieve benefits not available in rental housing. The annual expenditure from 1973 to 2000 per unit of co-operative housing was $4,719 (2000 $). The average expenditure per low-income housing unit was $10,259 (2000 $). About 15 percent of projects are currently experiencing financial difficulties. The co-operative housing stock has estimated repair needs of $129 million ($2,082 per unit). Nearly half (45 percent) of co-operative projects have insufficient reserve funds to meet the costs of these repairs and will need to generate additional revenues or borrow funds to maintain housing conditions in the co-operative housing stock.

Most co-operative housing (over 95 percent) was developed under programs designed to serve a mix of low- and moderate-income households. The evaluation found that half the residents in regular co-operatives and over 80 percent of residents in co-operatives developed under the targeted 1986-1993 Non-Profit program have incomes below Statistics Canada low-income cut-offs and CMHC's core need income thresholds (CNITs). An additional 20 percent of co-operative residents have moderate incomes so that overall about 70 percent of residents have incomes in the two lowest income quintiles. Analysis of homeownership affordability at current prices and income levels showed that 20 percent of regular co-operative residents could afford to purchase a home in 2001, although 70 percent said that they would buy a home if they had the means. Therefore, co-operative housing is achieving the objectives of providing housing to low- and moderate-income households. Over the portfolio of co-operative projects as whole, only 5 percent of projects have less than the minimum target level of RGI households and about 10 percent of projects have more than maximum RGI targets. Over the three co-operative housing programs (from 1973 to 1991), 39 percent of the co-operative units were identified as RGI compared with a weighted average target of 25 percent for these programs. Co-operatives developed under the 1986-1993 targeted Non-Profit Housing Program had over 80 percent of residents below the Core Need Income Thresholds in 2000.

Comparing housing charges with rents for comparable, unsubsidized units in the private market in 2001, co-operative housing is at least as affordable as private market rents. Average shelter cost to income ratios for non income-tested households in co-operative housing (32 to 33 percent) are somewhat lower than in rental housing (39 percent) but about the same as for condominium housing (33 percent). For the lower income co-operative households not in receipt of social assistance, shelter costs are geared to incomes but the average shelter cost to income ratios are about 37 percent. Shelter cost to income ratios exceed 30 percent for more than half of income-tested co-operative households not receiving social assistance and for 43 to 55 percent of non income-tested households. Based on these findings, the evaluation concluded that co-operative housing is providing affordable housing, although shelter costs are over 30 percent for more than half of all co-operative households.

In addition, co-operative housing conditions are adequate and suitable for over 90 percent of the residents. Less than 10 percent of units were rated as being in need of major repairs or overcrowded. While there is a low level of overcrowding in co-operative housing (less than 10 percent), the unit size profile is not well-matched with the household size profile and smaller (one- and two-person households) are occupying larger units than occupancy standards suggest. Twelve percent of co-operative units were occupied by persons with disabilities and over 60 percent of their units had all or most of the needed accessibility modifications.

Greater resident involvement in the operation of co-operative housing than in other types of housing has contributed to benefits such as more influence over decisions about housing. More than 90 percent of co-operative residents have participated in the operation of their housing and 65 to 70 percent feel they have the ability to influence decisions about their housing through participation. Co-operative residents benefit from a greater degree of security of tenure as compared with private renters. As well, households in co-operative housing have achieved more improvement than residents in other housing on key quality of life indicators such as an improved sense of community, improved relations with friends and neighbours and increased social supports. Compared with residents in other types of housing, co-operative residents achieved similar but no greater improvements in terms of skills development and economic well-being such as increased labour force participation, acquiring new jobs and more training.

The total government expenditure for all co-operative housing programs from 1973 to 2000 was about $4.1 billion (current $). Nearly two-thirds of these expenditures were incurred to bridge the difference between the economic cost and market housing charges, and one-third was incurred to further reduce housing charges for low-income residents. The expenditure per unit of co-operative housing varied among the programs due to the program financing mechanisms. In 2001, the average annual expenditure per unit of co-operative housing was $4,719 (2000 $), ranging from $2,287 for the earliest (1973-1978) program to $8,881 for the most recent, fully-targeted (1986-1993) program. The average annual expenditure per low-income unit is $10,259 in 2000 $. Average annual operating costs per unit of co-operative housing was estimated at about $1,600 (2000 $) including the imputed value of volunteer time.

Co-operative housing projects were more likely than non-profit rental projects to experience financial difficulties (15 percent of all co-operative housing projects [238 co-operatives] compared with 5 percent [116 NP rental projects]). Projects in financial difficulty may receive additional financial assistance through the Mortgage Insurance Fund or the Federal Co-operative Housing Stabilization Fund for ILM co-operatives from premiums contributed by the co-operatives. Overall, the analysis concluded that many internal and external factors are associated with projects in financial difficulty (that is, there is no one major factor) and that any preventative and/or remedial measures to address the problems of projects in difficulty need to be broadly based and take account of the specific conditions in individual co-operatives.

The co-operative housing stock currently has estimated repair needs of $129 million (an average of $2,082 per unit of co-operative housing). Many co-operatives have sufficient dollar amounts in their capital replacement reserves to cover the necessary repairs and, overall, the dollar amounts in reserve funds have increased more than portfolio repair costs since 1990. The proportion of projects with reserve fund deficits has declined since 1990. However, 45 percent of the projects do not have sufficient reserve funds to cover repair costs, and the total deficit of reserves in these projects was nearly $53 million in 2001/02. These co-operatives will need to generate additional revenues or borrow funds to maintain housing conditions to minimum standards. The ability of co-operatives to generate more revenues through increased housing charges (to cover the costs of repairs and/or to pay debt financing expenses) will depend on rent levels and vacancy rates in the local private housing markets.

The evaluation concluded that co-operative housing is achieving the objectives of providing adequate and affordable housing for low- and moderate-income households and that additional benefits are provided through enhanced participation in housing such as improved resident control over housing decisions, better security of tenure and higher quality of life than in other housing tenures. Government expenditures are enabling low- and moderate-income households that could not afford alternatives to rental housing to achieve benefits not available in rental housing such as greater security of tenure and resident involvement in their housing. The main challenges for the future are in areas such as ensuring efficient utilization of the co-operative stock, ensuring the affordability of the housing provided, addressing repair needs to maintain conditions in the stock and resolving financial difficulties that some co-operatives experience.

APPENDIX A

SELECTED SOCIO-ECONOMIC & DEMOGRAPHIC DATA AND CO-OPERATIVE HOUSING PROFILE

TABLE 1, APPENDIX A:
SURVEY COMPLETIONS (NO. OF HOUSEHOLDS) BY PROGRAM BY PROVINCE

Province	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Alberta	237	0	n/a	19	0	18	48
British Columbia	236	19	151	31	0	25	28
Manitoba	200	40	n/a	0	20	8	9
New Brunswick	181	0	n/a	0	18	7	1
Newfoundland & Labrador	165	0	n/a	0	24	5	0
Nova Scotia	205	0	n/a	8	56	13	2
Ontario	219	208	214	44	48	73	132
Prince Edward Island	96	21	n/a	0	12	3	0
Quebec	221	192	n/a	97	29	85	42
Saskatchewan	201	0	n/a	7	5	6	7
Total	**1,961**	**480**	**365**	**206**	**212**	**243**	**269**

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
Based on provincial samples for co-op programs and national samples for other tenure types.

TABLE 2, APPENDIX A:
WHICH OF THE FOLLOWING BEST DESCRIBES YOUR HOUSEHOLD?
(PERCENTAGE DISTRIBUTION - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Single adult living alone	32.9	22.3	20.4	46.1	40.3	58.1	36.6
Couple without child(ren)	15.3	9.9	5.5	13.7	7.8	19.5	25.4
Single parent living with child(ren)	24.6	45.0	40.5	17.6	34.5	8.7	12.3
Couple living with child(ren)	25.0	20.0	30.9	19.6	11.7	9.5	20.9
Two or more unrelated persons	1.1	1.3	1.6	2.0	4.9	2.5	2.6
Other	1.1	1.6	1.1	1.0	1.0	1.7	2.2
Sample size	*1,945*	*475*	*363*	*204*	*206*	*241*	*268*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 3, APPENDIX A:
DISTRIBUTIONS OF HOUSEHOLDS BY ANNUALIZED INCOME RANGES* IN 2001
(PERCENTAGE DISTRIBUTIONS)

Income Ranges	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium	All Canadian Households 2000**
Less than $15,000	24.0	41.2	33.9	32.1	51.3	28.5	1.2	11.5
$15,000 - $24,000	30.2	28.8	30.1	25.4	25.1	27.9	10.4	14.6
$24,001 - $48,000	27.9	21.5	22.4	30.6	10.7	27.3	47.4	27.6
$48,001 - $72,000	7.3	2.6	7.5	4.2	3.7	7.0	19.3	21.1
Over $72,000	10.6	5.9	6.1	7.7	9.2	9.3	21.7	25.2
Sample size	*1,798*	*447*	*322*	*193*	*187*	*172*	*249*	

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
Survey completions weighted to provincial sample distribution for regular co-ops only.
* Occupant Survey question was: "What was the total income of all members of your household last month from all sources before deductions?" Monthly incomes were converted to annual incomes.
** Survey of Households Spending 2000, Statistics Canada. Special tabulations by CMHC.

TABLE 4, APPENDIX A:
PERCENTAGE DISTRIBUTION OF INCOME BY INCOME CATEGORY - 1993 INCOMES
(PERCENTAGE DISTRIBUTION FOR FAMILIES AND INDIVIDUALS)

Income categories	Co-op housing	Mixed Non-profit housing	Targeted Non-profit housing
Less than $13,000	23	48	61
$13,000 - $20,999	15	21	18
$21,000 - $29,999	19	13	11
$30,000 - $46,000	28	12	7
More than $46,000	15	6	3

Source: Small Area Tax Filer Data - Revenue Canada, Statistics Canada

TABLE 5. APPENDIX A:
DISTRIBUTION OF HOUSEHOLDS BY ANNUAL INCOME RANGES, 1995 INCOMES
(PERCENTAGE DISTRIBUTION)

Responses	Co-op housing	Non-profit housing	Private Rental	Owned Condo	Owned Freehold*
Less than $15,000	23	43	30	9	8
$15,000 - $24,000	20	25	20	12	11
$25,000 - $34,999	17	12	16	14	11
$35,000 - $54,999	22	12	20	27	24
More than $55,000	18	8	14	38	46

Source: 1996 Census, special tabulations for AES, CMHC
*** Individual homeownership (excludes co-operative and condominium)**

TABLE 6. APPENDIX A:
WHAT WAS THE MAJOR SOURCE OF INCOME FOR YOUR HOUSEHOLD?
(PERCENTAGE DISTRIBUTION - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Paid employment	58.4	50.0	67.3	58.6	43.2	52.1	89.0
Pensions	28.6	20.9	15.6	23.8	22.6	37.4	7.6
Welfare payments	9.2	22.8	11.4	14.0	29.7	4.6	0
Other money income	3.8	6.3	5.7	3.6	4.5	5.9	3.4
Sample size	*1,859*	*463*	*352*	*193*	*199*	*238*	*264*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 7. APPENDIX A:
SOURCE OF INCOME - 1993

Source of Income	Co-op housing	Mixed Non-profit housing	Targeted Non-profit housing
Employment	55	16	14
Transfer payments	39	72	82
Others	6	12	4

Source: Small Area Tax Filer Data - Revenue Canada, Statistics Canada

TABLE 8. APPENDIX A:
HOUSEHOLDS WITH AT LEAST ONE PERSON IN THE LABOUR FORCE
(PERCENTAGE DISTRIBUTION)

Co-op housing	Non-profit housing	Private Rental	Owned Condos	Owned Freeholds
71	36	71	68	79

Source: 1996 Census, special tabulations for AES, CMHC

TABLE 9. APPENDIX A:
WHAT IS THE HIGHEST LEVEL OF EDUCATION THAT YOU HAVE COMPLETED?
(PERCENTAGE DISTRIBUTION- WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Some grade school	5.8	5.2	2.5	6.4	9.6	6.3	2.3
Grade school graduation	7.4	3.9	4.8	6.4	5.3	3.8	0.4
Some high school	15.9	23.9	12.0	19.7	18.2	17.6	6.4
High school graduation	20.6	20.6	17.0	21.2	22.5	17.6	14.6
Some post secondary education	14.2	13.4	14.0	8.9	11.5	12.6	15.4
Post-secondary diploma/ certificate	21.5	23.4	25.4	16.8	22.5	21.6	26.4
Post-secondary degree	14.7	9.6	24.3	20.7	10.5	20.5	34.5
Sample size	*1,935*	*479*	*358*	*203*	*209*	*239*	*267*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 10. APPENDIX A:
EDUCATIONAL ATTAINMENT BY TENURE FORM.
(PERCENTAGE DISTRIBUTION)

Levels of Education	Co-op housing	Non-profit housing	Private Rental	Owned Condos	Owned Freeholds
High School incomplete	32	56	38	24	33
Secondary (high) school graduation	22	17	21	20	18
Post-secondary college, CEGEP or trade certificate or diploma	33	20	27	33	32
University degree	13	7	14	23	17

Source: 1996 Census, special tabulations for AES, CMHC

TABLE 11. APPENDIX A:
ARE YOU AND/OR OTHER ADULTS IN THE HOUSEHOLD (18 AND OVER) ATTENDING SCHOOL, COLLEGE OR UNIVERSITY?
(PERCENTAGE SAYING YES - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Yes	20.6	23.3	26.3	13.4	16.8	11.7	20.2
Sample size	*1,929*	*478*	*361*	*201*	*209*	*239*	*268*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 12. APPENDIX A:
HOUSEHOLDS WITH AT LEAST ONE PERSON IN FULL TIME EDUCATION.
(PERCENTAGE DISTRIBUTION, FOR HOUSEHOLDS)

Co-op housing	Non-profit housing	Private Rental	Owned Condos	Owned Freeholds
21.8	11.34	17.9	11.2	21

Source: 1996 Census, special tabulations for AES, CMHC

TABLE 13. APPENDIX A:
WERE YOU BORN IN CANADA AND, IF NOT, WHEN DID YOU FIRST BECOME A LANDED IMMIGRANT IN CANADA? (PERCENTAGE DISTRIBUTION - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Born in Canada	78.1	79.5	55.8	85.4	76.2	89.7	74.1
Not born in Canada, landed immigrant	21.2	20.3	43.9	14.2	20.0	9.5	24.4
Not born in Canada, other than a landed immigrant	0.7	0.2	0.3	0.5	3.8	0.8	1.5
Sample size	*1,951*	*477*	*362*	*205*	*210*	*243*	*266*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 14. APPENDIX A:
WHAT LANGUAGE DO YOU SPEAK MOST OFTEN IN YOUR HOME?
(PERCENTAGE DISTRIBUTION - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
English	64.4	62.6	79.6	45.8	80.5	61.3	72.4
French	30.7	29.3	2.2	44.3	13.7	35.0	18.8
Other	4.9	8.2	18.2	9.9	5.9	3.7	8.8
Sample size	*1,930*	*466*	*357*	*203*	*205*	*243*	*261*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 15. APPENDIX A:
ARE YOU/OTHER MEMBER(S) OF YOUR HOUSEHOLD A MEMBER OF AN ABORIGINAL GROUP?
(PERCENTAGE SAYING YES - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Yes	4.0	2.8	3.6	1.5	2.8	3.3	1.1
Sample size	*1,938*	*476*	*364*	*203*	*211*	*243*	*268*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 16. APPENDIX A:
ARE YOU/OTHER MEMBER(S) OF YOUR HOUSEHOLD A MEMBER OF A VISIBLE MINORITY?
(PERCENTAGE SAYING YES - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Yes	11.2	13.0	17.6	7.5	21.4	5.4	10.5
Sample size	*1,899*	*464*	*359*	*200*	*206*	*243*	*266*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 17. APPENDIX A:
DOES ANYONE IN THE HOUSEHOLD HAVE A LONG TERM PHYSICAL DISABILITY?
(PERCENTAGE SAYING YES)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Yes	12.0	11.5	10.0	7.8	10.0	6.6	4.1
Sample size	*1946*	*478*	*360*	*204*	*210*	*242*	*267*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC)

TABLE 18, APPENDIX A
CO-OPERATIVE HOUSING PORTFOLIO BY PROVINCE AND PROGRAM, 2001
(NUMBER OF PROJECTS & NUMBER OF UNITS)

Province	1973-1978 Section 61		1979-1985 Section 95		1986-1991 ILM		1986-1993 FP Non-Profit		Total	
	Projects	Units	Projects	Units	Projects	Units	Projects	Units	Projects	Units
Newfoundland and Labrador			19	202	5	99			24	301
P.E.I.			6	62	4	96	4	51	14	209
Nova Scotia	17	132	67	1,240	23	570			107	1,942
New Brunswick			11	508	13	301			24	809
Quebec	107	1,844	561	11,148	260	4,780	91	1,464	1,019	19,236
Ontario	50	3,379	194	12,719	61	3,772	110	3,737	415	23,607
Manitoba			15	1,340	18	787	8	138	41	2,265
Saskatchewan	2	139	11	537	5	213			18	889
Alberta	8	263	32	1,627	21	921			61	2,811
British Columbia	15	858	169	9,231	59	2,832	4	120	247	13,041
Territories			4	101	2	62			6	163
Canada Total	**199**	**6,615**	**1,089**	**38,715**	**471**	**14,433**	**217**	**5,510**	**1,976**	**65,273**

Source: AGRSH and Program Delivery System databases, CMHC, May 2001

APPENDIX B

METHODOLOGY

1. CO-OPERATIVE HOUSING EVALUATION ADVISORY COMMITTEE

A committee (the Co-operative Housing Evaluation Advisory Committee) was established by CMHC's Audit and Evaluation Services to provide advice on the planning for the evaluation and design of the various survey instruments. Committee membership included the co-operative sector, provincial government agencies that expressed an interest in participating on the committee and CMHC (including the Policy and Program divisions). Representatives from the following agencies participated on the committee during the planning and design stages of the evaluation in 2001:

- Co-operative Housing Federation of Canada
- Newfoundland & Labrador Housing Corporation
- Nova Scotia Department of Community Services
- New Brunswick Department of Family & Community Services
- Ontario Ministry of Municipal Affairs & Housing
- Manitoba Department of Family Services and Housing
- British Columbia Housing Management Commission

Evaluation planning documents and minutes of the meetings of the Advisory Committee were also provided to representatives from the following provincial and territorial agencies to enable them to provide input individually:

- P.E.I. Ministry of Health & Social Services
- Quebec Housing Corporation
- Saskatchewan Ministry of Municipal Affairs, Culture & Housing
- Alberta Department of Community Development
- Yukon Housing Corporation
- NWT Housing Corporation
- Nunavut Housing Corporation

2. EVALUATION APPROACH AND METHODS

The evaluation followed a traditional multiple lines of evidence approach. That is, in order to compensate for potential shortcomings with any one source of information, data was collected from a number of different sources. Conclusions were then based on an overall assessment of data from these different sources.

2.1 SURVEYS

1) Surveys were conducted of residents in three groups of housing co-operatives in order to measure program objectives' achievement and impacts and effects. The first group was composed of housing co-operatives funded under the 1973-1978 (Section 34.18), 1979-1985 (Section 56.1) and 1986-1991 (ILM) programs. The second group was composed of housing co-operatives funded under the 1986-1993 Federal Provincial Non-profit program. The third group was composed of housing co-operatives funded under provincial unilateral housing programs in British Columbia and Ontario.[59]

The questionnaires were originally developed by Prairie Research Associates (Winnipeg, Manitoba) under contract to CMHC. They were further refined by Audit and Evaluation Services of CMHC in consultation with the members of the Co-operative Housing Evaluation Advisory Committee.

The planned survey sample sizes were large enough to provide estimates of proportions for these three groups of housing co-operative residents accurate to within plus or minus 7 percentage points of the true proportions, 19 times out of 20, at the provincial level of aggregation.

A random sample of housing co-operatives for the first and second groups of resident surveys was selected from CMHC administrative data (project approvals) and a random sample of housing co-operatives for the third group of resident surveys was selected from lists provided by the provinces. In order to generate sample frames for the co-operative housing resident surveys, contact persons from the selected housing co-operatives were asked to provide a listing of addresses for the units in their projects. Samples were then selected from these lists.

[59] The provinces of British Columbia and Ontario asked that their projects be included within the scope of this evaluation. The essential features of Ontario's and British Columbia's program designs are provided in the table below.

Provincial Co-operative Housing Program Descriptions

Province	Program	Subsidy assistance	Units
Ontario	Ontario Non-profit Housing: Project 3000 Project 3600 Project 10000 HomesNow JobsOntarioHomes	Year 1, break-even operating expenses to Non-RGI Year 2+, between adjusted operating costs and adjusted rent RGI assistance for a minimum 50% of units.	21,200
British Columbia	Homes B.C.	Between economic rent and 90% of market rents RGI assistance for 60% of units.	549

These surveys were conducted during the months of November 2001 through February 2002 by R.A. Malatest and Associates (Victoria, British Columbia). The questionnaires were mailed to the unit addresses (in some cases, questionnaires were sent to the project contact persons who then distributed the questionnaires to the project members). Reverse telephone directories permitted the survey firm to identify the occupant names and phone numbers for many of the unit addresses. Telephone reminders were made to these potential survey respondents while mail post card reminders were sent to those for whom only unit addresses could be obtained. Those who could be contacted by phone were provided the opportunity to complete the questionnaire over the phone.

2) For the objectives' achievement and impacts and effects analysis, surveys were done for four comparison groups: residents of non-profit rental projects funded under the 1979-1985 Federal Non-profit housing program, residents of Non-profit rental projects funded under the 1986-1993 Federal-provincial Non-profit housing program, residents of private rental housing projects and owner-occupants of condominium housing projects.

The planned sample sizes for these comparison group surveys were large enough to provide estimates of proportions accurate to within plus or minus 7 percentage points of the true national population proportion, 19 times out of 20.

In order to generate sample frames for the Non-profit housing resident survey, a random sample of Non-profit housing projects was selected from CMHC administrative data (project approvals). Then contact persons from these projects were asked to provide a list of addresses for the units in their projects from which the survey sample was drawn.

The frame for the sample of private rental residents was supplied by a private polling firm and the frame for the condominium resident sample was CMHC administrative data for the period 1998-2001 (mortgage insurance approvals).

The questionnaire design and the survey administration were essentially the same as for the co-operative housing resident surveys.

3) For the analysis of problems faced by projects in difficulty and of program objectives' achievement, surveys were conducted of the physical condition of buildings in a sample of housing co-operatives.

The physical condition survey forms were based on forms used in previous evaluations. Modifications to capture neighbourhood characteristics and the causes of a repair need were made by Prairie Research Associates (Winnipeg, Manitoba). The form was further refined by Audit and Evaluation Services of CMHC.

The planned sample sizes for the physical condition survey were large enough to provide estimates of per unit repair needs for these three groups of housing co-operatives accurate to within plus or minus $600 of the true average per unit repair need, 19 times out of 20, at the provincial level of aggregation.

The housing co-operatives selected for the physical condition surveys were the same ones as those selected for the resident surveys. As with the resident surveys, contact persons from the selected housing co-operatives were asked to provide a listing of addresses for the units in their projects. These lists in turn were used as the sample frames for the physical condition surveys.

The physical condition survey was conducted from late November 2001 through to March 2002. AES provided to CMHC principal technical officers in each region the lists of the projects and of the units selected for the survey. The principal technical officers then directed either CMHC or private inspectors to complete the survey forms for each selected projects. The completed inspection forms were then mailed to R.A. Malatest and Associates for entry onto a computer data base.

4) Surveys were conducted of housing co-operative managers and board members. Information from these surveys were mainly used in the analysis of problems faced by projects in difficulty.

The board member and co-ordinator/manager questionnaires were originally developed by Prairie Research Associates. They were further refined by Audit and Evaluation Services of CMHC in consultation with the members of the Co-operative Housing Evaluation Advisory Committee.

The planned sample sizes were large enough to provide estimates of proportions accurate to within plus or minus 10 percentage points of the true national population proportion, 19 times out of 20.

The housing co-operatives selected for the Board Members and co-ordinators/managers surveys were the same as those selected for the resident and condition surveys. Contact persons for the selected projects were asked to provide names, addresses and phone numbers for one member of their Board of Directors and for their co-ordinator/manager.

These surveys were conducted between January and February, 2002. After the questionnaires were mailed, R.A. Malatest and Associates telephoned to remind the recipients to respond. The selected board members and co-ordinator/managers were also given the opportunity to complete the questionnaire over the phone.

Survey Completion Rates

The actual completion rates for the various surveys are reported in Table B1. The original plan included 433 regular and F/P non-profit housing co-operatives in the evaluation. However, only 221 projects supplied address information for units in their projects for sampling. The remaining 212 co-operatives did not provide the required information for various reasons related to confidentiality issues. Therefore, the required sample of households for each project had to be increased from an average of 5 to an average of 10 so as to achieve the required total occupant sample sizes. AES has examined the characteristics of the 221 co-operative projects including in the sampling frame and determined that it includes no biases with respect to key characteristics (such as project size, type of building and location). Therefore, the household samples can be considered a representative sample of the universe.

As highlighted in Table B1, after adjusting for those individuals who did not have a valid phone number, the valid completion rate was 51.5 percent for the entire sample. It should also be noted that the Renters group did not receive any prior notice of the survey and that only the CMHC and Unilateral Co-ops were directly involved in the study.

TABLE B1
SAMPLE SIZE, SURVEY COMPLETIONS & RESPONSE RATE
BY OCCUPANT GROUP

	Sample Accessed	Non-Qualifier	NIS/ Wrong #	Valid Sample	Call Backs	Refusals	Completions	Valid Completion Rate
CMHC Co-ops	4,488	186 4.1 %	671 15.0 %	3,631	726 16.2 %	434 9.7 %	2,471 55.1 %	68.1 %
Mixed Income Non-Profit	539	25 4.6 %	175 32.5 %	339	67 12.4 %	66 12.2 %	206 38.2 %	60.8 %
Targeted Non-Profit	445	20 4.5 %	82 18.4 %	343	91 20.4 %	40 9.0 %	212 47.6 %	61.8 %
Condominium Owners	803	90 11.2 %	217 27.0 %	496	116 14.4 %	111 13.8 %	269 33.5 %	54.2 %
Renters	2,588	457 17.6 %	203 7.8 %	1,928	769 29.7 %	916 35.4 %	243 9.4 %	12.6 % *
Unilateral Co-ops	891	35 3.9 %	280 31.4 %	576	149 16.7 %	62 7.0 %	365 41.0 %	63.4 %
Total - All Groups	**9,754**	**813 8.3 %**	**1,628 16.7 %**	**7,313**	**1,918 19.7 %**	**1,629 16.7 %**	**3,766 38.6 %**	**51.5 %**

* The valid completion rate for the renters sample was low due to a number of factors. Calling was halted upon obtaining the required number of completions and hence the sample was not exhausted. No letter was sent before the calling commenced and the renters were not involved with CMHC, resulting in an abnormally high refusal rate.

2.2 OTHER DATA SOURCES

1) Special tabulations from the 1996 Census of Canada were requested from Statistics Canada. This data source allowed comparisons of several social-economic characteristics to be made between samples of co-operative housing residents, non-profit housing residents, private rental residents, condominium owner-occupants and freehold owner-occupants.

Households living in co-operative housing projects who responded to the detailed questionnaire from the 1996 Census survey (a 20 percent sample) were identified by linking their postal codes with the postal codes of projects funded under the NHA co-operative housing and non-profit housing programs. There is evidence that two types of errors were committed during this linking exercise. First, small housing co-operatives which share a postal code with other types of housing could not be uniquely identified. Second, large housing co-operatives which have only one mailing address, but which in fact were large enough to require more than one postal code, were only partially identified through this method. The data was weighted in an attempt to address these problems.

2) Special tabulations from a longitudinal data set of tax filer information (1982-1993) for families living in housing projects assisted under the NHA were requested from Statistics Canada. They allowed comparisons of several social-economic characteristics to be made between samples of co-operative housing residents and non-profit housing residents.

Statistics Canada created family income and tax information using data obtained by Revenue Canada from individual tax filers. In order to identify information for families living in assisted housing, the addresses for assisted housing projects were linked to the addresses of families on this data set. However there is evidence that this linking exercise was imprecise. Since CMHC could only provide the mailing address for the project, not the mailing address for all of the units in the project, projects which were composed of buildings at several different addresses would be only partially covered.

3) Data was collected on housing charges and unit vacancies for co-operatives through CMHC's annual Rental Market Survey (RMS) (October 2001). This information was combined with similar information collected through this survey for private rental structures in the analysis of objectives achievement (affordable housing).

The sample frame for the RMS was developed by the Market Analysis Centre of CMHC. All rental buildings larger than 6 units are included in the frame, including housing co-operatives. Usually only information on unit vacancies is asked from a sample of housing co-operative managers. However, for the October 2001 survey as a special request for this evaluation, all housing co-operative managers for projects in the sample frame were asked to provide information on their housing charges as well as their vacancies. About 65 percent responded to the survey, with a major gap in coverage occurring in the Prairies.

4) Administrative data provided the sample frame for several of the surveys and was used in the analysis of program costs and of housing co-operative production and operating efficiency. It was also used in the analysis of the causes of projects being in difficulty.

The administrative data provides information from the subsidy and loan approval files on unit location as well as on the development of the project (number of units, building type, development cost, loan amount, loan type, projected operating cost, projected subsidy amounts, etc.). In addition, projects are required to provide annual reports on their operating and maintenance costs, revenues, subsidies, operating surpluses (or deficits), reserve fund balances, number of households paying housing charges on the basis of their incomes etc. However, as with most administrative data, there can be much incomplete or missing information, especially for fields which are not essential for program administration. Further data may not always be current (e.g. annual project reports). Finally, since administration of the housing co-operative portfolios has been devolved to some of the provinces, and since administrative practices vary from province to province, some of the data, especially the annual financial records, were not consistent.

2.3 SPECIALLY COMMISSIONED STUDIES

Private consultants were selected through a competitive process to conduct three special studies for the evaluation.

9) Tony Wellman and Paddy Fuller completed two studies:
   - "Efficiency of Co-operative Housing"
   - "A Study of Co-operative Housing Costs"

10) Canmac Economics Ltd. prepared:
   - "A Study of Co-operative Housing Projects in Difficulty"

3. METHODOLOGICAL CONSIDERATIONS

The evaluation employed the technique know as 'quasi experimental design' in order to measure the impacts of the co-operative housing programs. The best way to explain this approach is to compare it with classic 'experimental design'. In the latter, people (or households or whatever) are randomly split into two groups before the program is administered; a control group which is not subjected to the program and a group which is subjected to the program. The random assignment ensures that there are no differences in internal or external factors between the two groups which might explain the results of the program. Measurements of the indicators of interest are taken before the program is administered and afterwards. Differences in the indicators can then be attributed to the program since it is the only factor which is different between the two groups.

The reality is that a full experimental design can only rarely be used to measure the impacts of a government program. Society would not condone a random assignment of households to two groups, one benefiting from the program and the other not benefiting. However, because of this non random assignment, there may well be differences between the composition of the program group and the control groups which could explain the results of the program. There may also be differences in external factors correlated with the different locations of the program group and the control groups which could explain the results of the program.

In addition, a practical reality is that collecting data on indicators for the two groups, once before and once after the program intervention, may not be possible since the evaluation occurs some time after the program is introduced. The large cost of collecting data may also prohibit pre- and post-program collection of data. Because of this lack of pre- and post-program data, the measurement of program impacts becomes problematic.

All of these constraints prevented the application of full experimental design in this evaluation. A 'quasi experimental design' was used instead.

Because there were no pre-program measurements of the indicators of interest, the evaluation had to ask the survey respondents to recall whether there were any changes in their personal social and economic situations since moving into their project. This is clearly a less robust methodology since it relies on memory, with those living in their current residence the longest probably facing the greatest recall challenges. Nevertheless, asking about changes is better than simply asking the respondents to state their current satisfaction level or their current social or economic state. This latter approach leaves open the possibility that the differences between co-operative housing residents and residents in the other tenures could simply be explained by self-selection; that is, that certain types of households may be attracted to certain tenures (e.g. gregarious people select co-operative housing and 'loners' select rental housing).

An additional element of the quasi experimental design employed in this evaluation is that groups thought to be roughly comparable to co-operative housing residents were selected to respond to the same survey questionnaires as the co-operative housing residents. These groups included households living in private rental dwellings, in non-profit rental dwellings and in condominium dwellings. These tenures were chosen as points of comparison because they were considered to be the principal choices faced by co-operative households if co-operative housing were not available to them. Hence differences in indicators on social or economic development (for example) between co-operative housing households and these groups could be interpreted as the impact of the federal government financing co-operative housing projects.

Ideally, in order for differences in outcomes to be attributed to the program, the members of the comparison groups should have identical characteristics to the program group and be subjected to the same external factors. However, as can be seen from Appendix A, where demographic, socio-economic and locational characteristics are compared, there are some differences between the program groups and the comparison groups. As these differences may account for the differences in program outcomes, they should be controlled in the analysis. This is done in this study through the use of multiple regression analysis.

Regression analysis measures the relationship between a dependent variable and one or more independent variables which are believed to effect the size of the dependent variable (this hypothesized relationship is known as a 'model'). With regression analysis, statistical tests can be done to determine whether the relationship between each of the independent variables and the dependent variable is large or small, or indeed whether the relationship exists at all. Statistical tests could also be done to determine how well the model explains the variation in the data (the model is considered to be strong if it explains much of the variation in the dependent variable, e.g. household spending).

Regression techniques are used in this study to assess whether the variation among households in various indicators of housing satisfaction and social and economic development is explained by the type of housing that they live in (co-operative housing, non-profit housing, rental housing and condominium housing) while controlling for other variables that may also influence these indicators. The independent (explanatory) variables include housing type, household type, region, education level, immigrant status, whether a visible minority, income source, household head aged 55 or more, income level and length of time since moving into the project.

The dependent variable takes a value of 1 if the household is very or somewhat satisfied and a value of zero if it is neutral, somewhat dissatisfied or very dissatisfied. Because the dependent variable takes a value of 1 or 0, a special type of regression analysis is used -- logistic regression. A logistic regression measures a non-linear relationship between the dependent variable and the independent variables and is solved by maximum likelihood methods. This approach is necessary to avoid a statistical problem known as heteroscedasticity which invalidates the statistical test on the relationship between the independent variables and the dependent variable.[60]

With logistic regression, the difference in the probability of a household being satisfied (or developing socially or economically) due to the presence (or absence) of the characteristics represented by the independent variables is measured. In this approach, the key statistics to examine are those for the tenure of the housing occupied by the respondents. The estimated difference in probability can be positive for the other tenures indicating that the co-operative housing program had a negative impact, or negative indicating that the co-operative housing program had a positive impact. The estimated difference in probability, whether positive or negative, could also have occurred by chance because the data represents a sample rather than the whole population and as such is said not to be statistically different from zero, indicating that the co-operative housing program had no impact at all.

Table B2 summarizes the data sources and research methods used in the evaluation.

[60] The other statistical problem often faced in regression analysis is multicollinearity among the independent variables. This too will invalidate the statistical test of the strength of the relationship between the independent and dependent variables. The data for the independent variables used in this and all ensuing regressions in this study have been tested for multicollinearity using diagnostics developed by D.A. Belse, E. Kah and R.E. Welsch. This test shows that multicollineary is not a problem with this data set.

TABLE B2 : EVALUATION METHODOLOGIES		
	Methodology	**Data Sources**
Issue 1		
Affordability	• Comparison of co-op housing charges with market rents • Comparison of shelter cost to income ratios	• Rental Market Survey (RMS) • Survey of co-op residents, NP, private rental and condominium residents
Projects in difficulty	• Calculate probability of default, foreclosure for co-operative, private rental and non-profit projects • Compare characteristics of co-op projects in difficulty with characteristics of co-op projects not in difficulty	• Condition and appraisal survey, project manager and board member surveys, RMS, portfolio management and MIF administrative data, interviews with portfolio and project managers/board members.
Democratic Control	• Compare indicators of democratic control. • Regression analysis to control for differences in household characteristics	• Survey of co-op tenants, other tenure forms
Resident Self Help	• Compare amount of unpaid work among various tenure forms. • Compare indicators of self help	• Census data. • Survey of co-op tenants, other tenure forms
Income	• Comparison against low and moderate income benchmarks. • Comparison against program requirements to house low income households	• Census, small area admin. data (LAD) • Survey of co-op tenants, other tenure forms • Administrative data • Project manager and Board member survey
Adequacy	• Professional inspector assessments of the costs of repairs needed to bring projects up to minimum standards • Occupant assessment of unit repair needs	• Condition survey • Survey of co-op tenants, other tenure forms
Issue 2		
Cost to government	• Financial analysis of annual cost to government	• CMHC administrative records on co-op project commitment, annual operating costs, cost accounting data
Comparative cost analysis	• Comparative analysis of economic costs	• CMHC administrative records on co-op project commitment and annual operating costs, CMHC administrative records on mortgage commitment, annual rental norms, cost accounting data, IREM data, CHF annual reports, Revenue Canada annual reports
Issue 3		
Quality of life	• Compare changes in indicators of quality of life. Regression analysis to control for differences in household characteristics	• Survey of co-op tenants, other tenure forms
Security of tenure	• Compare turnover data, length of stay data • Compare indicators of security of tenure. • Regression analysis to control for differences in household characteristics	• Census, small area administrative data - LA • Survey of co-op tenants, other tenure forms
Skill development	• Compare educational attainment, labour force participation • Compare changes in skill development, economic well being • Regression analysis to control for differences in household characteristics	• Census, small area administrative data - LAD • Survey of co-op tenants, other tenure forms

4. BACKGROUND INFORMATION FOR ANALYSIS

4.1 INCOME LIMITS

1) Second Income Quintile Thresholds, Canada, 1998

Second Income Quintile Thresholds, Canada, 1998		
All Family Units	**Families 2 or more persons**	**Unattached Individuals**
$31,189	$44,326	$15,561
Source: Survey of Family Income, 1998 - Statistics Canada		

2) Homeownership Affordability Limits

Homeownership affordability limits were estimated by calculating the minimum income required to purchase an entry level home, assuming that the purchase is financed by an NHA insured loan. In order to estimate these limits, it was assumed that a unit in a low rise condominium project was being purchased. A 5 percent down payment, an interest rate of 7.5 percent (as an average of long-term mortgage interest rates) and a loan term of 25 years were assumed. Hence the limit equals the income for which the total of principal[61] and loan interest payments, property taxes, heat and one half of condominium fees equals thirty two (32) percent. The limits were calculated separately by region.

The data for condominium values was obtained from NHA mortgage insurance approvals for both new and existing purchases between 1998 and 2001. The data for property taxes, heat and condominium fees was obtained from Statistics Canada's Survey of Household Spending in 1999. All the information was converted to 2001 values by applying the Consumer Price Index. The estimated regional homeownership affordability limits are as follows.

Estimated Homeownership Affordability Limits - Average of regional limits	
Atlantic	$32,564
Quebec	$38,296
Ontario	$52,503
Prairies	$40,204
British Columbia	$54,154
Source: AES, CMHC	

[61] Including a mortgage insurance premium of 4%.

3) Statistics Canada Low- Income Cutoffs, 2000

The current cutoffs which Statistics Canada is using are based on 1992 family spending data. Each year, LICOs are updated to allow for inflation as reflected in the Consumer Price Index (CPI). They are reported below for the year 2000:

Low Income Cutoffs - 2000 - Before Tax					
Family Size	Rural Areas	Urban Areas			
		< 30,000	30,000 - 99,999	100,000 - 499,999	> 500,000
1	12,696	14,561	15,648	15,757	18,371
2	15,870	18,201	19,561	19,697	22,964
3	19,738	22,635	24,326	24,497	28,560
4	23,892	27,401	29,448	29,653	34,572
5	26,708	30,629	32,917	33,148	38,646
6	29,524	33,857	36,387	36,642	42,719
7	32,340	37,085	39,857	40,137	46,793
Source: Statistics Canada					

4) Core Need Income Thresholds

Core housing need income thresholds are based on the view that households should not have to spend more than thirty (30) percent of their gross incomes in order to occupy shelter which is suitable (enough bedrooms to accommodate all household members according to the National Occupancy Standards[62]) and adequate (requiring regular maintenance only and providing bathroom facilities). Households which would have to spend more than 30 per cent of their income to occupy suitable and adequate income could be considered to be low-income[63].

In order to calculate core housing need income thresholds, median rents for private, row and apartment structures with 3 or more units were calculated by community size and by the number of bedrooms. The source of data was CMHC's 2001 Rental Market Survey. All statistics were for a combination of both serviced and non-serviced units (i.e. heat, hot water, electricity).

[62] The National Occupancy Standards recommend that each adult in a household have a private bedroom, unless cohabiting with a spouse, in which case a bedroom may be shared with the spouse. A maximum of two children of the same sex may share a bedroom and children of the opposite sex may share a bedroom only if they are less than 5 years of age. Single person households may occupy bachelor units under the NOS.

[63] But they would not necessarily be in core housing need since being in core housing need requires that they have both 1) incomes below the core need thresholds and 2) occupy inadequate, unsuitable and unaffordable housing.

Estimated core need income thresholds limits - Average of provincial limits - 2000		
Bedroom count	**CMA**	**CA or city**
Bachelor	16,920	14,124
1	20,640	17,196
2	24,240	20,724
3+	28,044	22,716
Source: MAC, CMHC		

4.2 PROGRAM COSTS ANALYSIS - DATA SOURCES & ASSUMPTIONS

To determine the cost to government of co-operative housing, information on project subsidy cost and administration cost were assembled. The costs included were:

- Ongoing federal subsidy costs
- Ongoing provincial subsidy costs
- Front end grants
- Written-off start up costs (Project Development Funds)
- Rent supplement costs (federal and provincial)
- Administration and delivery cost for the co-op program
- Administration an delivery cost for the rent supplement program
- Community Resource group Operating Program (CROP) costs
- Residential Rehabilitation Assistance Program (RRAP) costs to bring a project to standard when taking it into the program
- Any other provincial or municipal subsidies or grants

The original plan was to include in these calculations excess cost to the Mortgage Insurance Fund (i.e. claims costs which were in excess of accumulated insurance premiums and associated investment income). However at this point there appears to be a cash surplus in the Co-op MIF account. It is not possible to determine where there is an actuarial surplus or deficit since the pattern of arrears and foreclosures are not predicable to support actuarial analysis. Hence no excess claims cost are included in these calculations.

The main sources of data were:

- Canadian Housing Statistics and CMHC annual reports
- Internal reports/annual reviews/evaluations
- Main Estimates
- CMHC computer data files including General Ledger (GL), Program Delivery System (PDS) and Underwriting Program System (UPS)

Data gaps where they existed were filled through estimation using relevant available data. Except where otherwise indicated, all the cost data are reported in nominal dollars (that is, they are not adjusted for annual price inflation nor are they presented on a present value basis). Further, the cost data represent expenditures from the beginning of the program to date; no attempt was made to forecast future cost or to estimate lifetime program cost.

The indicators of the cost to government for the various co-operative housing programs were produced by dividing the relevant cost for each program converted into 2000 dollars by the appropriate number of unit-years.

Operating Costs Analysis

The issue of whether co-operative housing is more efficient than other housing tenures because it is self managed and self operated was examined by comparing its costs with the cost of other tenures (private rental, non-profit rental and condominium).

There are two possible ways of carrying out the study. One could compare projects of similar size and location or one could look at averages over stock/portfolios.[64] This project used the second approach. This implicitly considers that certain choices were made in this program and that to the extent that they resulted in sacrificing economies of scale in some costs by choosing small project size or paying more in capital cost because of a more central location, then the impacts of these choices on resources used are part of the equation and need be included.

The attribution of a cost to the voluntary labour used to manage and operate housing projects deserves some explanation.[65] The economic model underlying this attribution assumes that a labourer receives benefits both from leisure, including unpaid productive activity, and from the goods and services he can purchase as a result of working for a wage. The labourer trades off the benefits of working against the benefits of leisure in deciding how much time to allocate to each activity. He can not make himself better off by working more because the value of the additional goods and services that he would be able to consume is less than the value of the leisure time that he has to give up. Similarly he can not make himself better off by working less because the value of the added hour of leisure is lower than the value of the additional goods and services that he would have to give up. Since value is attached to both working time and leisure time, it follows that the opportunity costs associated with volunteer work include the value of paid work and leisure activities that are foregone.

[64] The former approach was proposed in the plan for the evaluation, but had to be abandoned because of insufficiently detailed data.

[65] Relevant background literature on this topic includes the following: Statistics Canada *Households' Unpaid Work: Measurement and Evaluation*, 1996, Cat. No. 62-555-XPB; D.W. Pearce & C. A. Nash *Social Appraisal of Projects - A Text in Cost-Benefit Analysis*, 1998; Richard O. Zerbe Jr. & Dwight D. *Dively Benefit-Cost Analysis in Theory and Practice*, 1995; Michael J. *Frost Value for Money: The Techniques of Cost-Benefit Analysis*, 1981.

If paid work were missed in order to do the volunteer work, then the value of the volunteer work would equal the number of hours volunteered times the gross market wage rate (including benefits) since the gross wage rate is a measure of the resulting lost production. As is more likely in the case of volunteer time for managing and operating a housing project, if leisure were missed, then the value of the volunteer work would equal the number of hours volunteered times the volunteer's value of his leisure time. While the value of leisure has not been measured precisely, it has an upper bound equal to the wage rate net of taxes, since this is how much the person would benefit if instead he were to work for a wage. The lower bound is not known, but has occasionally been assumed to be about 20 percent of the market wage rate.

Recommendations have been made to conduct a sensitivity analysis in cost benefit studies using these lower and upper bounds.[66] Alternatively, a point between the upper and lower bounds could be used. An examination of cost benefit textbooks reveals the most commonly quoted number on the value of leisure time is 25 percent of the gross wage rate based on 'a number of empirical studies'. Therefore 25 percent of the gross wage rate is used in this study. As average hourly earnings for all earners (wages and salary) in 1994 was $16.52, the value of an hour of volunteer time was calculated to be $4.13. The cost efficiency study included both estimates, with and without the value of volunteer time.

[66] See for example, Peter G.C. Townley, Principles of Cost Benefit Analysis in a Canadian Context, p.p. 122-128.

APPENDIX C

DETAILED BACKGROUND TABLES

1. PROGRAM COSTS

Expectations: The evaluation determined the overall costs to government of assisting co-operative housing. The expectation is that total program costs increased over time as more units were added to the stock and as prices inflated. Then various cost ratios were calculated by program such as:

- the total annual cost of the program per unit,
- the total annual cost per unit to reduce economic costs down to occupancy charge levels,
- the total annual cost per low-income unit to reduce occupancy charges down to low-income occupancy charge levels, and
- total annual cost of the program per low-income unit.

Method a): To determine the cost to government of co-operative housing, information on project subsidy cost and administration cost were assembled.

Except where otherwise indicated, all the cost data are reported in nominal dollars (that is, they are not adjusted for annual price inflation nor are they presented on a present value basis). Further, the cost data represent expenditures from the beginning of the program to date; no attempt was made to forecast future cost or to estimate lifetime program cost.

Method a) Findings: The total costs of all the co-operative housing from 1973 to 2000 is $4.1 billion. The total stock of co-operative units under administration in 2000 was 65,464.

- The total costs of the Section 61 Co-operative Housing Program since 1973 is $233.8 million on a stock of 6,616 units.
- The total cost of the Section 95 program since 1978 is $2.7 billion on a stock of 38,838 units.
- The total cost of the ILM Program since 1986 is $680.1 million on a stock of 14,434 units.
- The total cost of funding 5,576 co-operative housing units under the 1986-1993 Non-profit housing program is $492 million. Note that only the cost of federally-assisted income-tested units are included (i.e., the provincial costs of adding non income-tested units to the federally targeted units are not included).

Since 1973, most of the government expenditures (61 percent) were spent on project supply assistance to reduce economic cost such as loan repayments, operating expenditures and repair/maintenance expenditures (all units in the project benefited from this assistance). Thirty five percent (35 percent) of the government expenditures were used to reduce charges for low-income co-operative housing members while about 2.5 percent were for overall program administrative expenditures.

TABLE 1.1. APPENDIX C:
TOTAL COST TO GOVERNMENT OF CO-OP HOUSING PROGRAMS
(CURRENT $000S)

	1973-1978 Program	1979-1985 Program	ILM Program	FP NP Co-op Program	Total
Supply Assistance	128,873	1,736,900	411,942	228,139	2,505,854
Low income Assistance	91,533	886,641	204,219	256,240	1,438,633
Administration *	**	39,648	62,284	7,676	109,608
Start-up & RRAP	13,474	37,095	1,706	0	52,275
Total	233,880	2,700,284	680,151	492,055	4,106,370

Source: "A Study of Co-operative Housing Costs" by Tony Wellman and Paddy Fuller for AES, 2001
*** For details on calculation of 'Administration' costs, see background paper. For 1979-1985 co-operatives, costs were based on data from the 1992 Evaluation of Federal Co-operative Housing Programs. For ILM co-operatives, the costs were based on CMHC General Ledger financial accounts and adjusted to include provincial administration fees for the portion of the portfolio transferred to the provinces post-1997. For the FP NP co-operatives, costs included estimated provincial costs based on cost-sharing agreements in 1996. All costs were inflated and deflated over the relevant time period that the projects were in operation.**
**** In 1973-1978 (Section 61) co-operatives, the interest rate against which the interest rate contribution was calculated included a 3/8% margin for administration costs. Therefore, administration costs are included in 'Supply Assistance' for these projects.**

Method b): The above statistics provide a broad overview of government expenditure trends on the co-operative housing programs but do not allow a meaningful comparison among the different versions of the programs because they were in operation at different times, for different periods of time and at different resource/output levels. In order to generate comparative cost indicators, the data has to be standardized for the number of units under each program, for the duration of the program and for annual price inflation.

- The total number of units assisted under the programs is readily available from administrative records. However, the split between the number of low-income units and the number of moderate- and high-income units has to be estimated for each program. For the 1973-1978 and 1979-1985 programs, the low-income proportion was derived by counting the number of residents with incomes below the upper limit of the second income quintile of family income who also received income based assistance for their housing charges.[67] The results suggested that in 1990, 34 percent of the 1973-1978 program units and 49 percent of the 1979-1985 program units were low-income.[68] For the ILM Co-operative housing program, the number of households receiving rent supplement assistance were considered to be low-income while for the 1986-1993 FP Non-profit program, all of the units receiving federal assistance were considered to be low-income.

[67] Using data from the resident survey carried out for the 1992 Co-operative Housing Evaluation.

[68] As information from the 1983 Section 56.1 Non-profit and Co-operative Housing Evaluation showed lower proportions of low income residents, interpolations were made between the proportions of low income residents from the 1992 Co-operative Housing Evaluation and the proportions from this earlier evaluation for the proportions of low income residents for the intervening years.

- The different program durations were accounted for by summing the total number of unit-years provided by each program (for example, a unit which was in place for 10 years would have yielded 10 unit-years).

- Annual inflation was accounted for by converting program costs to constant 2000 $ through the Consumer Price Index.

The indicators of the cost to government for the various co-operative housing programs were produced by dividing the relevant cost for each program (albeit converted into 2000 $) by the appropriate number of unit-years.

Method b) findings: According to this analysis, the most expensive program for government was the Federal Provincial Non-Profit Co-operative Housing Program and the least expensive was the 1973-1978 co-operative housing program. This pattern persists for annual subsidy cost per unit, annual cost per unit to reduce economic costs to occupancy cost and annual cost per low-income unit to reduce occupancy charges for low-income units.

Operating Costs

Expectations: Unlike occupants of private or public rental housing but like private owners, co-operative members have an incentive to be economical in their consumption of housing services such as heat and water and to ensure the proper care of their building. They may also provide many of the required housing services themselves rather than hire professional service providers. Hence an expected impact of the development of co-operative housing would be lower operating and maintenance costs than in public or private rental housing.

Method: The costs of co-operative housing were compared the costs of other tenures (private rental, non-profit rental and condominium). There are two possible ways of carrying out the study. One could compare projects of similar size and location or one could look at averages over stock/portfolios.[69] This project used the second approach using data from the Institute of Real Estate Management (IREM) annual publication (1994) and ARK Research Associates 'Incomes and Expenses Data for Canadian Multi-unit Residential Buildings'. This implicitly considers that certain choices were made in the co-operative housing program and that, to the extent that they resulted in sacrificing economies of scale in some costs by choosing small project size or paying more in capital cost because of a more central location, then the impacts of these choices on resources used are part of the equation and need be included.

The relative efficiency is measured by comparing the present value of lifetime cost (50 years) of co-op units to those of non-profit housing, private rental housing and condominiums. All types of cost are taken into account (i.e. cost at the project level, cost incurred directly by occupants out of their own pockets and the imputed value of voluntary and other unpaid labour of residents in all tenure forms).

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[69] The former approach was proposed in the plan for the evaluation but had to be abandoned because of insufficiently detailed data.

For the purposes of the study, the operating costs and other ongoing costs from which the lifetime costs are generated are taken from 1994 when data is more complete. Capital costs were from 1990 when units were still being produced under the ILM Co-op Program.

TABLE 1.2, APPENDIX C:
DATA SOURCES FOR CO-OP COST EFFICIENCY STUDY

Component	Co-op Housing	Non-profit	Rental	Condominium
Operating Costs (at the project level) - excluding utilities	CMHC Internal (AGRSHRX)	CMHC Internal (AGRSHRX)	IREM Canadian Rental ARK Research Associates Rental Report	IREM Canadian Condominium Data
Utility Cost, Voluntary Labour, Occupant Repair & Maintenance	2002 Co-op Evaluation Occupant Survey	2002 Co-op Evaluation Occupant Survey	2002 Co-op Evaluation Occupant Survey	2002 Co-op Evaluation Occupant Survey
Program Administration/ Delivery	CMHC program data	CMHC program data	N/A	N/A
Capital Costs	Canadian Housing Statistics (CHS)	CHS	Clayton & Lampert pro formas	Underwriting data

Source: "Efficiency of Co-operative Housing", a study by Tony Wellman and Paddy Fuller for AES, 2001

Since the study used data from different sources, there were inevitable problems of comparability, particularly when trying to compare individual categories of cost. Thus some estimation and adjustment of the numbers was necessary.

The attribution of a cost to the voluntary labour used to manage and operate housing projects deserves some explanation. The economic model underlying this attribution assumes that a labourer receives benefits both from leisure, including unpaid productive activity, and from the goods and services he can purchase as a result of working for a wage. The labourer trades off the benefits of working against the benefits of leisure in deciding how much time to allocate to each activity. He can not make himself better off by working more because the value of the additional goods and services that he would be able to consume is less than the value of the leisure time that he has to give up. Similarly, he can not make himself better off by working less because the value of the added hour of leisure is lower than the value of the additional goods and services that he would have to give up. Since value is attached to both working time and leisure time, it follows that the opportunity costs associated with volunteer work include the value of paid work and leisure activities that are foregone.

If paid work were missed in order to do the volunteer work, then the value of the volunteer work would equal the number of hours volunteered times the gross market wage rate (including benefits) since the gross wage rate is a measure of the resulting lost production. As is more likely in the case of volunteer time for managing and operating a housing project, if

leisure were missed, then the value of the volunteer work would equal the number of hours volunteered times the volunteer's value of his leisure time. While the value of leisure has not been measured precisely, it has an upper bound equal to the wage rate net of taxes, since this is how much the person would benefit if instead he were to work for a wage. The lower bound is not known, but has occasionally been assumed to be about 20 percent of the market wage rate.

Recommendations have been made to conduct sensitivity analysis in cost benefit studies using these lower and upper bounds.[70] Alternatively a point between the upper and lower bounds could be used. An examination of cost benefit text books reveals the most commonly quoted number on the value of leisure time is 25 percent of the gross wage rate. This figure is based on 'a number of empirical studies'. Therefore twenty five percent of the gross wage rate is used in this study. As average hourly earnings for all earners (wage and salary) in 1994 was $16.52, the value of an hour of volunteer time was calculated to be $4.13.

Projects in Difficulty

Expectations: The evaluation examined the circumstances where co-operative housing projects have experienced difficulties. There may be a number of causes of such difficulties, ranging from changes in local market conditions to its surrounding neighbourhood to poor project management practices and project leadership problems. In some cases, the difficulties are so severe that the project cannot meet its financial obligations and has to either be assisted by government, the Mortgage Insurance Fund or the Co-operative Housing Stabilization Fund, or terminated.

Method a) As a first line of analysis, the probability of co-operative and non-profit projects being in difficulty were compared.[71] Projects in difficulty were identified by CMHC portfolio managers in the provinces of P.E.I., Quebec, Ontario, Alberta and British Columbia and by provincial housing agency portfolio managers in Newfoundland, Nova Scotia, New Brunswick, Manitoba and Saskatchewan.

There is no formal definition of a project being in difficulty. However, it appears that the portfolio managers identified projects which already receive work-out assistance from the Mortgage Insurance Fund or are at risk of needing work-out assistance for various reasons.

The data for this analysis came from CMHC's program administrative files (project commitments) as well as from list of PIDs complied by CMHC and provincial assisted housing portfolio managers.

Method a) Findings: Two hundred and thirty eight co-operative housing projects were identified as being in difficulty. Most were projects initiated between 1978 and 1985. However a significant number were ILM co-operative housing projects. Only a very small number of co-operative housing projects in difficulty were initiated between 1973 and 1978.

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[70] See for example, Peter G.C. Townley, Principles of Cost Benefit Analysis in a Canadian Context, p.p. 122-128.

[71] The original plan also called for a comparison with private rental projects and condominium units, but data was not available.

For projects initiated between 1973 and 1978, there was little difference between the probability of co-operative housing and non-profit housing projects being in difficulty. However for projects initiated between 1978 and 1985, co-operative housing projects were much more likely to be in difficulty than non-profit housing projects.

The age of the project and the program design (the type of financing, type of governmental assistance, etc.) clearly have some influence on its probability of its being in difficulty. Co-operative housing projects initiated between 1986 and 1991 (ILM's) were almost twice as likely as co-operative housing projects initiated between 1979 and 1985 to encounter difficulties and about 12 times more likely than co-operative housing projects initiated between 1973 and 1978 to encounter difficulties. While not as extreme, a similar relationship exists between age and program design and the probability of being in difficulty for non-profit projects.

Method b) To examine the causes of projects being in difficulty, the status of a sample of projects (in difficulty/not in difficulty) were correlated to internal and external factors. There were three sources of data generated by the evaluation for the PID study: a survey of Co-op board members, a survey of Co-op project managers and a physical conditions survey (which also contained the inspectors assessment of neighbourhood characteristics). In addition, co-op program administrative data and housing market data from CMHC surveys and Statistics Canada 1991 and 1996 Censuses were used.

Test were made to measure differences in many characterisitcs of projects in difficulty and not in difficulty. No significant differences were found for most of these characteristics. Only those which were found to be statistically different between projects in difficulty and projects not in difficulty are reported below (except where otherwise indicated).

Method b) Findings: An examination of the conditions survey showed that co-operative housing projects in difficulty are more likely than projects not in difficulty:

- to have a cause of repair due to poor construction
- to have a cause of repair due to poor design

An examination of the neighbourhood characteristics showed that co-operative housing projects in difficulty are more likely than projects not in difficulty to be in a neighbourhood that is stable or declining.

With respect to project management, projects in financial difficulty are more likely than projects not in financial difficulty:

- to have managers with less experience
- to have paid staff members
- to have higher rates of arrears
- to have vacancies

In addition, projects in difficulty are likely to have less reserve funds per household than projects not in difficulty. This may be because projects in difficulty made lower contributions to reserve funds in the past or that projects in difficulty have had to make more withdrawals from the reserve funds in order to cover current operating losses.

With respect to project leadership, boards of directors of projects in financial difficulty are more likely than boards of directors of projects not in financial difficulty to:

- have less experience
- not monitor revenues and expenses and financial statements
- not compare budgets to actuals
- not review tax assessments, insurance requirements and obligations to CMHC or the province
- not have organized financial, social and recreational, member selection or maintenance committees

With respect to project membership, projects in financial difficulty are more likely than projects not in financial difficulty to:

- have fewer members active in general meeting attendance
- have fewer members active in other volunteer work

With respect to market characteristics, projects in financial difficulty are more likely than projects not in financial difficulty to be located in a market:

- in P.E.I., New Brunswick, Manitoba and Saskatchewan*
- with a higher vacancy rate
- with lower rents*
- with lower house values*
- that has less population
- with a lower population growth rate*
- with lower average household incomes
- with higher unemployment rates

(* denotes statistical significance)

Method c): This univariate analysis does not take into account whether these characteristics are correlated with each other, and in effect measuring the same thing (e.g., market vacancy rates and project vacancy rates). Furthermore, it does not measure the magnitude of the characteristics' influence on the project's likelihood of being in difficulty. Therefore, as a second line of inquiry, logistic regression analysis was performed with the dependent variable being an indicator of whether the project was in difficulty or not and the independent variables being the project's characteristics. The estimated parameters from this regression analysis can be interpreted as the magnitude and direction (+ or -) of the influence of the characteristic on the probability of the project's being in difficulty. Statistical tests were performed to determine if the estimated parameters are statistically different from zero and if they were correlated with each other.

Method c) Findings: The final regression equation included the following variables:

- Ratio of annual mortgage and interest payment to annual rent
- Cause of repair: poor construction or poor design
- Presence of a financial subcommittee of the Board
- Co-op project age (14 to 23 years)
- Reserve funds per unit

All of these variables were statistically significant at the 5 percent level and they were not highly correlated to each other. Together they account for 29.6 percent of the difference between projects in financial difficulty and those without difficulties (McFadden R-squared = 29.6 percent).

A logistic regression (based on data from 99 co-ops) found that fixed costs (mortgage payment to rent ratio) had the most significant explanatory power (7.1 percent). It also found that building conditions (poor construction/design), reserve funds per unit, and co-op management (presence of a financial subcommittee of the Board) are significant in distinguishing between co-op projects in financial difficulty versus those not in difficulty. Project age, which served as a proxy for program type, also impacted the final results.

These results should be viewed with caution and do not necessarily indicate causal relationships due to several factors including the small sample size and the qualitative nature of other variables which did not emerge in the multiple regression equation. Therefore, the final variables that emerged as significant should be viewed as indicator variables of the major factors rather than specific causes. This analysis, based on the data available, showed that there were no overpowering attributes that distinguished co-op projects in financial difficulty versus those not in financial difficulty.

Conclusions: Co-operative housing projects are more likely to be in difficulty than non-profit housing projects where being in difficulty is measured as receiving work-out assistance from the Mortgage Insurance Fund or having been identified by CMHC and provincial portfolio managers as being at risk of needing work-out assistance. While survey data indicated a range of factors identified by project managers as being related to financial difficulties (the highest ranking factors being unforeseen repairs, high vacancies, member arrears and catching up on deferred maintenance), the multiple regression analysis identified only five variables that were significant and together these accounted for only a third of the incidence of projects in difficulty. These results indicate that a range of factors affect the likelihood of projects to experience financial difficulties.

2. HOUSING CONDITIONS AND AFFORDABILITY

2.1 DEMOCRATIC CONTROL AND SELF HELP

Expectations: The evaluation examined the extent to which co-operative housing members democratically make decisions respecting the project and the community it constitutes and the extent of co-operative member contributions of their own time and labour to the operation of the co-operative.

Method a): Resident participation and the ability to influence decisions were used as indicators of democratic control and self help in co-operative housing. Survey responses from residents were compared between co-operative housing and other tenure forms.

Method a) Findings:

TABLE 2.1.1. APPENDIX C:

ARE YOU OR ANY MEMBERS OF YOUR HOUSEHOLD CURRENTLY PARTICIPATING, OR HAVE YOU EVER PARTICIPATED, IN THE HOUSING WHERE YOU CURRENTLY LIVE?
(PERCENTAGE SAYING 'YES' - WEIGHTED)

HAVE YOU AND/OR OTHER MEMBERS OF YOUR HOUSEHOLD EVER PARTICIPATED IN THE FOLLOWING (UNPAID) ACTIVITIES IN YOUR HOUSING?
(PERCENTAGE OF ALL RESIDENTS THAT REPORTED PARTICIPATING IN THE ACTIVITIES - WEIGHTED)

Activities	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
% participated - total	88.9	89.8	91.7	4.4	17.1	3.3	36.6
Sample size	*1,943*	*480*	*363*	*203*	*205*	*242*	*268*
Of these, %: Committee work	82.5	84.0	82.0	*	56.7	*	51.8
Attending meetings	95.0	92.0	97.3	*	72.7	*	87.0
Maintenance Work	67.3	67.8	63.0	*	*	*	35.4
Office work	32.1	32.2	26.6	*	*	*	21.0
Organizing social events	49.2	45.4	37.2	*	36.7	*	16.9
Selection of residents	41.5	41.8	39.5	*	*	*	1.3
Leadership(1)	50.1	46.3	46.2	*	28.1	*	49.4
Sample sizes (range)	*1504-1653*	*391-422*	*293-329*	*8-9*	*27-33*	*8*	*75-99*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
*** Cell sizes too small**
(1) Leadership is defined as membership of a co-operative Board of Directors or of a tenant or condominium association executive.

TABLE 2.1.2. APPENDIX C:
CURRENTLY, HOW MANY HOURS PER MONTH DO YOU AND OTHER MEMBERS OF YOUR HOUSEHOLD SPEND PARTICIPATING IN UNPAID ACTIVITIES IN YOUR HOUSING?
(MEAN AND MEDIAN ESTIMATED HOURS PER MONTH PER HOUSEHOLD)

Types of activities	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
% participated - total	88.9	89.8	91.7	4.4	17.1	3.3	36.6
Sample size	*1,943*	*480*	*363*	*203*	*205*	*242*	*268*
Meetings & committees							
Mean	4.1	3.5	4.3	*	*	*	1.7
Median	2.0	2.0	2.5				1.0
Maintenance, office, clerical							
Mean	3.7	3.8	2.4	*	*	*	0.8
Median	1.0	1.0	1.0				0
Total							
Mean	7.8	7.3	6.7	*	*	*	2.5
Median	3.0	3.0	3.5				1.0
Range of sample sizes	*1227-1337*	*329-355*	*262-290*	*5-6*	*21-29*	*7*	*79 - 87*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
*** Cell sizes too small**

TABLE 2.1.3. APPENDIX C:
DO YOU THINK YOU AND/AND OR OTHER MEMBERS OF YOUR HOUSEHOLD HAVE BENEFITED FROM YOUR (UNPAID) PARTICIPATION IN YOUR HOUSING?
(PERCENTAGE SAYING "YES" - WEIGHTED)

	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
% participated - total	88.9	89.8	91.7	4.4	17.1	3.3	36.6
Sample size	*1,943*	*480*	*363*	*203*	*205*	*242*	*268*
Of these: % saying that they benefited from participation	80.4	75.2	77.2	*	72.7	*	60.4
Sample size	*1,598*	*408*	*325*	*7*	*33*	*7*	*96*
% saying that they gained ability to influence decisions about their housing	67.7	70.3	65.2	*	*	*	72.4
Sample size	*1,259*	*299*	*247*	*3*	*24*	*3*	*58*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
*** Numbers of respondents too small to report the data**

TABLE 2.1.4. APPENDIX C:
CONSIDERING YOUR CURRENT DWELLING UNIT, PLEASE INDICATE YOUR LEVEL OF SATISFACTION WITH THE ABILITY TO INFLUENCE DECISIONS IN YOUR HOUSING
(PERCENTAGE SAYING SOMEWHAT SATISFIED OR VERY SATISFIED)

Indicators	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Ability to influence decisions about your housing costs	58.5	57	50.3	40.6	52.9	42	45.15
Sample size	*1,754*	*427*	*320*	*170*	*170*	*219*	*237*
Ability to influence decisions about repairs and improvements	62.1	60.7	61.3	48.9	51.1	59.8	51.8
Sample size	*1,825*	*453*	*346*	*178*	*184*	*229*	*249*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method b): Logistic regression techniques are used to assess whether the variation among households in their satisfaction about their ability to influence decisions about their housing is explained by the type of housing that they live in (co-operative housing, non-profit housing, rental housing and condominium housing) while controlling for other variables that may also influence satisfaction. The independent (explanatory) variables include housing type, household type, region, education level, immigrant status, whether a visible minority, income source, household head aged 55 or more, income level and length of time since moving into the project.

Method b) Findings: The logistic regression results shows that households in co-operative housing are more satisfied with their ability to influence decisions about housing cost than are non-profit and private renters, but are equally satisfied as condominium owners.

The logistic regression results also show that co-operative housing members are equally as satisfied as private renters and condominium owners regarding their ability to influence decisions about repairs and improvements, but are more satisfied than non-profit renters.

Method c): As an additional line of evidence on self help, responses to a 1996 Census question on the number of hours of unpaid work (such as home maintenance, yard work and housework) were compared between residents of co-operative housing, private rental, condominium and non-profit housing projects. Statistical comparisons among these tenure forms provides an indicator of whether the degree of self-help is higher in co-operative housing than in other tenure forms. Co-operative and non-profit households were identified through postal codes (condominium and private renters are already identified on the Census). Since all households have to perform a minimum of general housework, the additional time contributions in co-operatives is an indication of the additional maintenance and operational work associated with member involvement in their housing.

Method c) Findings:

TABLE 2.1.5, APPENDIX C:
LAST WEEK, HOW MANY HOURS DID THIS PERSON SPEND DOING UNPAID HOUSEWORK, YARD WORK OR HOME MAINTENANCE FOR MEMBERS OF THIS HOUSEHOLD OR OTHERS? (PERCENTAGE DISTRIBUTION, FOR HOUSEHOLDS)

Responses	Co-op housing	Non-profit housing	Private Rental	Owned Condos	Owned Freehold
No hours	10	18	12	12	9
Less than 5 hours	20	23	25	26	18
5 to 14 hours	33	30	35	37	37
15 to 29 hours	21	18	17	17	22
30 hours or more	16	11	11	8	14
Median # hours week/household	10.5	7.7	8.3	7.9	11.6

Source: 1996 Census, special tabulations for AES, CMHC

2.2 OCCUPANCY BY LOW- AND MODERATE-INCOME HOUSEHOLDS

Expectations: The evaluation examined the income characteristics of co-operative housing residents to determine if program objectives of serving low- and moderate-income households were being achieved.

Method a): To determine the percentage of co-operative housing residents with low- and moderate incomes, the incomes of co-operative housing residents were compared to Statistics Canada's upper income limits for the second income quintiles (by province) and to homeownership affordability limits.

Method a) Findings:

TABLE 2.2.1, APPENDIX C:

WHAT WAS THE TOTAL INCOME OF ALL MEMBERS OF YOUR HOUSEHOLD LAST MONTH FROM ALL SOURCES AND BEFORE DEDUCTIONS?

PERCENTAGE OF HOUSEHOLDS REPORTING ANNUAL INCOME BELOW THRESHOLD FOR SECOND INCOME QUINTILE

PERCENTAGE OF HOUSEHOLDS REPORTING ANNUAL INCOME BELOW HOMEOWNERSHIP AFFORDABILITY LIMITS

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Below second income quintile threshold	70.0	87.2	81.4	73.6	79.1	57	31.3
Below homeownership affordability limit	79.4	91.3	90.4	83.4	85.6	75.6	49.8
Sample size	*1,798*	*447*	*322*	*193*	*187*	*172*	*249*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method b) An alternative way of determining the incidence of low- and moderate-income households in co-operative housing is asking the occupants to self-assess whether they could afford to purchase a home. Implicit in this method, as with Method a), is the view that the ability, or lack thereof, to own a home separates low- and moderate-income households from high income households. The self assessment method improves upon Method a) because it can capture not only income constraints on homeownership, but also down payment and other constraints. However it is not as strong as Method a) in other respects, namely that it is based on subjective opinion rather than objective, measurable criteria. Note that condominium owners were excluded from this analysis since they already own their own home.

Method b) Findings:

TABLE 2.2.2. APPENDIX C:

COULD YOUR HOUSEHOLD AFFORD TO BUY A HOME OF YOUR OWN AT THIS TIME?
(PERCENTAGE SAYING 'NO' - WEIGHTED)

FOR THOSE SAYING THAT THEY COULDN'T AFFORD A HOME NOW: WHY COULD YOU NOT AFFORD TO BUY A HOME OF YOUR OWN AT THIS TIME?
(PERCENTAGE DISTRIBUTION - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental
% saying unable to buy a home	90.6	94.9	92.8	87.5	94.4	66.2
Sample size	*1,823*	*463*	*345*	*192*	*195*	*258*
Of these: **% saying: 'Do not have the funds for a down payment'**	41.7	31.8	36.6	35.7	29.7	37.2
% saying 'Could not carry a mortgage'	13.7	12.3	7.6	11.7	11.4	6.2
% saying 'Other'	10.4	9.9	4.0	15.6	10.9	17.9
% saying: 'Do not have the funds for a down payment' and 'Could not carry a mortgage'	29.4	39.9	47.9	33.8	43.4	33.1
% other combinations of explanations	4.8	6.1	3.9	3.2	4.6	5.6
Sample size	*1,478*	*424*	*303*	*154*	*175*	*145*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 2.2.3, APPENDIX C:
FOR THOSE SAYING THAT THEY COULDN'T AFFORD A HOME NOW:

IF YOU CANNOT AFFORD TO BUY A HOME NOW, DO YOU THINK YOU MIGHT BE ABLE TO BUY A HOME AT SOME TIME IN THE FUTURE?
(PERCENTAGE SAYING "YES" - WEIGHTED)

WOULD YOU BUY A HOME OF YOUR OWN IF YOU HAD THE MEANS TO DO SO?
(PERCENTAGE SAYING "YES" - WEIGHTED)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental
% saying unable to buy a home	90.6	94.9	92.8	87.5	94.4	66.2
Sample size	*1,823*	*463*	*345*	*192*	*195*	*234*
Of these: % saying they might be able to buy in future.	40.6	44.8	60.5	35.8	42.3	43.9
Sample size	*1,257*	*336*	*243*	*123*	*142*	*139*
% saying that would buy if they had the means.	70.5	84.7	88.0	65.6	82.0	62.4
Sample size	*1,489*	*403*	*300*	*160*	*183*	*157*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method c): To determine the percentage of co-operative housing residents with low-incomes, the incomes of co-operative housing residents and of other tenures were compared to Statistics Canada's low-income cutoffs and to CMHC's core need income thresholds. Information on incomes was collected through a resident survey.

Method c) Findings:

TABLE 2.2.4. APPENDIX C:
WHAT WAS THE TOTAL INCOME OF ALL MEMBERS OF YOUR HOUSEHOLD LAST MONTH FROM ALL SOURCES AND BEFORE DEDUCTIONS?

PERCENTAGE OF HOUSEHOLDS WITH INCOME BELOW STATISTICS CANADA'S LOW INCOME CUTOFFS (WEIGHTED DATA)

PERCENTAGE OF HOUSEHOLDS WITH INCOME BELOW CORE HOUSING NEED INCOME THRESHOLDS (WEIGHTED DATA)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Below low income cutoff	50.3	69.9	64.6	54.4	71.1	43.6	11.2
Below core housing need income thresholds	48.1	75.0	73.6	51.3	74.3	42.4	12.5
Sample size	*1,798*	*447*	*322*	*193*	*187*	*172*	*249*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method d) To determine the extent to which co-operative housing projects meet the minimum requirements of the various programs to house low-income households, information on the proportion of RGI units in a project was collected from the Project Manager and Board of Director surveys.

Method d) Findings:

TABLE 2.2.5, APPENDIX C:

HOW MANY MEMBERS OF YOUR HOUSING CO-OPERATIVE HAVE THEIR HOUSING CHARGES BASED ON THEIR INCOME?
(DISTRIBUTION OF PROJECTS BY PERCENTAGE OF RESIDENTS ON RGI)

Responses	1973-1978 Co-ops	1979-1985 Co-ops	1986-1991 Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops
0 - 15%	31.6	8.9	7.0	na	na
15% - 30%	31.6	12.6	10.5	na	na
30% - 50%	21.0	45.6	66.7	na	na
Over 50%	15.8	32.9	15.8	na	na

Source: Evaluation of Co-operative Housing, Co-ordinator/Manager Survey, 2001 - AES, CMHC

2.3 HOUSING ADEQUACY

Expectations, Building Condition: Buildings are constructed to meet the requirements of the applicable provincial or municipal building code. Over time, the various components of the building structure (roof, walls, floors) and the systems in the structure (e.g. heat, electricity, plumbing) deteriorate so that they may need repair and replacement. The expectation is that housing co-operatives will meet property standards that are in force. If repairs are required to building elements, it is expected that co-operatives will have saved enough in their reserves to cover their repair requirements.

It is expected that older housing projects may need more repairs. The effect of building age on repair need should tend to disappear over the long term as all building systems become renewed, but the age of the co-operative housing stock is probably not sufficiently long to be able to erase the age effect.

Project size may affect costs of repairing deteriorated building elements because economies of scale in management and planning of rehabilitation projects are available to large housing projects and not to smaller ones. Repair costs are reported for projects with 30 units or fewer and for project with more than 30 units. Thirty units is approximately the average size of federally funded co-operative housing projects.

There is evidence that housing projects developed entirely through new construction have lower per unit repair needs than projects developed with some component of acquisition and renovation. The difficulties of designing and managing renovation projects may lead to incomplete or inadequate renovations and hence to worse building performance over the long term.

There is also evidence that per unit repair needs are higher in 'ground-oriented buildings' than apartments. This may be a result of more consistent construction procedures being applied in apartment buildings than in 'ground-oriented buildings'. Another factor may be that repairs to the building envelope and common areas are divided over a larger number of units in apartment buildings than in 'ground-oriented buildings'.

Location may affect building performance for two reasons. At the provincial or regional level, location may be related to climatic differences that affect building performance differently. At the site-specific level, location may indicate construction problems, flooding problems, or specific orientation or wind problems that affect building performance. These site-specific problems were not measured.

Expectations, Building Accessibility: Another measure of housing adequacy is the degree to which housing offers accessible facilities for disabled occupants. Respondents were asked if any members of their households were disabled and if so what provisions have been made for occupancy by disabled persons. It is expected that publicly funded housing would make greater provision for disabled residents than privately owned housing.

Expectations, Occupancy Standards & Unit Sizes: CMHC and provincial housing agencies have used the National Occupancy Standard (NOS) for many years as part of the criterion for determining both eligibility for social housing and the size of the housing unit assigned to a client household. The NOS defines a norm bedroom requirement based on the number, age, relationship and sex of household members. The expectation is that publicly funded housing will tend not to have occupants in crowded conditions and that residents of subsidized units will not occupy larger units than their household size requires.

Method a) Physical condition data: The primary measure of building condition is the repair need estimate derived from the condition survey of co-operative housing projects undertaken as part of the evaluation. CMHC used professional building inspectors to survey co-operative projects across Canada during November and December 2001. Inspectors recorded the condition of up to 220 building elements during the inspection visits. Inspections were conducted in over 800 dwelling units and 500 buildings in 178 co-operative projects. Statistical tests were done to determine whether average per unit repair costs differ by the characteristics of the project (e.g. whether an existing building or newly constructed, a low rise or a high rise, large or small, etc.). Average per unit repair needs were compared to average per unit reserve funds to identify the proportion of the portfolio which is able to undertake necessary repairs.

Method a) Findings:

TABLE 2.3.1. APPENDIX C:
CO-OPERATIVE PORTFOLIO REPAIR NEED ESTIMATE BY BUILDING SYSTEM

Building system	Total repair		Per unit repairs
	($ million)	(percent)	($)
Site areas	8.4	6.5	137
Building envelope and common areas	61.0	47.4	987
Dwelling interiors	59.2	46.0	958
Project total	**128.8**	**100.0**	**2081**

Source: CMHC co-operative housing physical condition survey, 2001-02

TABLE 2.3.2. APPENDIX C:
CO-OPERATIVE HOUSING PORTFOLIO REPAIR NEEDS BY CAUSE OF DETERIORATION

Cause	# of units	Repair cost		Cost per Unit
		($ million)	(%)	
Construction fault	14,330	40.2	31.2	2,808
Design fault	12,218	28.0	21.7	2,289
Normal wear	31,343	60.7	47.1	1,935
No repair needed	4,017	0	0	0
Portfolio total	**61,908**	**128.9**	**100**	**2,081**

Source: Evaluation of Co-operative housing, physical condition survey, Audit and Evaluation Services, CMHC 2001

TABLE 2.3.3, APPENDIX C: MEAN PER UNIT REPAIR COST ($) CO-OPERATIVE & OTHER HOUSING PROGRAM PORTFOLIOS (2001$)					
1973-1978 Co-ops	**1979-1985 Coops**	**ILM Co-ops**	**FP NP Co-ops**	**Unilateral Provincial Co-ops**	**Total co-operative housing portfolio**
1,783	2,345	1,614	1,830	not available	2,082
OTHER HOUSING PROGRAM PORTFOLIOS					
1973-1978 Non-profits Rental	**1979-1985 Non-profits Rental**	**1986-1993 Non-profits Rental**	**1986 Rent Supplement**	**1978-1985 Urban Native**	**1986- 1993 Urban Native**
900	562	462	1,043	2,687	2,478

Sources: Co-operative Housing data from Co-operative Housing Evaluation, Physical Condition Survey, 2001, AES, CMHC. Other Housing Programs data from Urban Social Housing Evaluation, Physical Condition Survey, Program Evaluation Division, CMHC, 1994. Figures from the 1994 evaluation were inflated to 2001$ using the CPI.

Method b) Occupant assessments of their dwelling's repair need: Occupants were asked to rate their dwelling unit's need for repairs. The choices provided included requiring regular maintenance only (painting, furnace cleaning etc.), requiring minor repairs (missing or loose floor tiles, bricks or shingles, defective steps, railing or siding, etc.) and requiring major repairs (defective plumbing or electrical wiring, structural repairs to walls, floors or ceilings, etc.).

Method b) Findings:

TABLE 2.3.4, APPENDIX C: IS YOUR DWELLING IN NEED OF ANY REPAIRS? (PERCENTAGE DISTRIBUTION - WEIGHTED)							
Responses	**Regular Co-ops**	**FP NP Co-ops**	**Unilateral Provincial Co-ops**	**Mixed Income Non Profit Rental**	**Targeted Non Profit Rental**	**Private Rental**	**Condo-minium**
No, regular maintenance only	68.7	60.2	69.4	72.3	57.1	71.2	79.7
Yes, minor repairs	22.9	30.3	25.1	19.3	36.7	20.2	13.9
Yes, major repairs	8.4	9.5	5.6	8.4	6.2	8.6	6.4
Sample size	*1,939*	*475*	*359*	*202*	*210*	*243*	*266*
Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC							

Method c): Adaptations for occupancy by disabled persons

Survey respondents were asked if anyone in their household currently had a long term physical disability and required special features in their dwelling like grab bars, railings, kitchen/bathroom alterations, electric intercoms or wheelchair access. Twelve percent of co-operative housing respondents reported that there was a person with a long term physical disability in the household and required special features in their dwelling. Those indicating that a disabled person lived with them were then asked if the needed special features had been installed.

Method c) Findings:

TABLE 2.3.5, APPENDIX C:
HAVE ALL OR MOST FEATURES THAT ARE NEEDED BY DISABLED OCCUPANTS BEEN INSTALLED?

Needed features installed	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
All or most features have been installed	61.9	58.4	72.2	*	*	*	*
Sample size	*230*	*47*	*36*	*15*	*21*	*16*	*10*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC)
*** Numbers of respondents too small to report the data**

Method d): Housing Stock Utilization by Unit Sizes

Survey respondents were asked to identify the numbers of persons in their households, their age, gender and relationships, and the number of bedrooms in their dwellings. These data were analyzed according to the National Occupancy Standard to determine the proportions of households at the NOS and below and above the standard.

In addition, these data were analyzed by the numbers of bedrooms per person as another indicator of the stock/household size mix. (Table 2.3.6, Appendix C below)

TABLE 2.3.6, APPENDIX C:
UNIT UTILIZATION BY HOUSEHOLDS SIZE (NUMBERS OF PERSONS) AND NUMBERS OF BEDROOMS (PERCENTAGES)

Unit utilization	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
persons < bedroom count	25	20	6	19.4	19.8	28	37.6
persons > bedroom count	28.9	27	38.4	30.6	23.1	17.7	27.9
persons = bedroom count	46.1	53	55.6	50	57.1	54.3	34.6
Sample size	1,961	480	365	206	212	243	269

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

To assess the match between the household profile and the unit size mix on co-operative units, data was compiled from CMHC administrative databases on the proportions of units with bachelor, one-bedroom, two-bedrooms, three-bedrooms and four or more bedrooms. The unit size distribution from these data is shown in Table 2.3.7, Appendix C below.

TABLE 2.3.7, APPENDIX C
UNIT SIZE DISTRIBUTION OF CO-OPERATIVE HOUSING STOCK

Unit sizes	Section 61 co-ops		Section 95 co-ops		Section 96 ILM		Section 95 Non-profit		Total	
	#	%	#	%	#	%	#	%	#	%
Bachelor	167	3.28	453	1.31	65	0.52	--	0	685	1.32
1 bedroom	863	16.94	5,629	16.31	1,583	12.78	3	5.88	8,078	15.52
2 bedroom	1,810	35.54	12,141	35.18	5,604	45.23	7	13.73	19,562	37.58
3 bedroom	1,894	37.19	14,399	41.72	4,519	36.47	40	78.43	20,852	40.06
4+ bedroom	359	7.05	1,893	5.48	619	5	1	1.96	2,872	5.52
Total	5,093	100	34,515	100	12,390	100	51	100	52,409	100

Source: AGRSH administrative database, CMHC, May 2002.
These data are not available for the Section 95 FP Non-Profit Co-operative projects developed by provincial delivery agents.

2.4 PROVISION OF AFFORDABLE HOUSING

Expectations: The evaluation examined the extent to which co-operative housing projects provide affordable housing in all parts of Canada. For purposes of this evaluation, affordability is defined in two ways. Under the first definition, a housing unit is deemed to be affordable if its cost to the occupant is equal to or less than average market rents. Under the second definition, a housing unit is deemed to be affordable if its cost relative to the income of the occupant is equal to or less than average shelter cost to income ratios.

Method a) To determine whether co-operative housing is affordable, occupancy charges for a sample of co-operative housing projects were compared to market rents for a sample of private rental housing projects in selected markets, while controlling for unit bedroom count. Note that the co-operative housing charges included both charges for subsidized units (where the charges are based on the occupant's income) and unsubsidized units. CMHC's rental market survey for October 2001 was the source of rent data for private rental projects and for co-operative housing projects.

Method a) Findings: Table 2.4.1 shows the market areas for which sufficient co-operative housing and private rental project data was available through the Rental Market Survey to allow comparisons to be made. This shows that co-operative housing is affordable. There is only one comparison out of the 22 possible comparisons where co-operative housing is more expensive that private rental housing. In all of the other comparisons, co-operative housing was found to be less expensive.

TABLE 2.4.1, APPENDIX C:
AVERAGE PRICES OF PRIVATE RENTAL AND CO-OPERATIVE APARTMENT STRUCTURES OF 6 UNITS AND OVER BY METRO AREA AND NUMBER OF BEDROOMS, OCTOBER 2001

Metro Area	Bachelor		One Bedroom		Two Bedroom		Three bedroom	
	Rental	Co-op	Rental	Co-op	Rental	Co-op	Rental	Co-op
Halifax	516		559		679	605	860	626
Montreal	405	310	497	369	547	421	658	458
Ottawa	629		771	615	925	728	1,135	819
Québec	390	314	496	387	554	454	631	465
Sherbrooke	300		369	394	448	407	536	472
Toronto	699	512	869	645	1,029	765	1,212	940
Vancouver	622		727	536	918	688	1,053	860

Source: Rental Market Survey System (RMSS), CMHC, October 2001

Method b) Information on resident incomes[72] and occupancy charges[73] was collected through a survey and used to calculate shelter cost to income ratios (STIR), another measure of housing affordability.[74] The evaluation compared this measure of affordability between co-operative housing residents and residents of non-profit, private rental and condominium projects, distinguishing between those paying occupancy charges on the basis of their incomes and those paying full occupancy charges.

[72] In order to calculate the shelter cost to income ratio, the income ranges within which the survey respondents indicated that their income fell had to be converted into a continuous variable by using the midpoint of the range.

[73] For co-op, non-profit and private rental residents, total housing charges included the monthly payment to the project plus any maintenance, water, electricity and gas/oil expenses not covered in the monthly payment. For condominium owners, total housing charges included the monthly mortgage payment plus maintenance, water, electricity and gas/oil expenses, condominium fees and any property/school taxes not covered in the monthly mortgage payment.

[74] A value of zero was assumed for those who indicated that they paid additional charges for electricity, oil and gas, water etc., but who did not provide information on how much the additional charges were. A value of zero was also assumed for those who did not know whether they paid additional charges.

3. BENEFITS OF CO-OPERATIVE HOUSING

3.1 SECURITY OF TENURE

Expectations: Residential mobility includes both voluntary and involuntary moves by households within and between the various sectors of the housing stock. Studies have shown that mobility rates are considerably higher for households that rent their housing than for households that own their dwellings.

Table 3.3.1 indicates that, in 1995, co-operative housing had higher proportions of residents who had lived there for one year and five years than private rental housing. About half of the co-operative residents had lived at the same address five years ago compared with only 30 percent of private renters. The proportions were roughly the same for co-operative as for condominium owners. Freehold ownership had the highest proportion of residents for five years (71 percent).

TABLE 3.1, APPENDIX C:
WHERE DID THIS PERSON LIVE ONE YEAR AGO, THAT IS ON MAY 15, 1995?
WHERE DID THIS PERSON LIVE FIVE YEARS AGO, THAT IS ON MAY 15, 1991?
(PERCENTAGE DISTRIBUTION, FOR HOUSEHOLDS)

Responses	Co-op housing	Non-profit rental housing	Private Rental housing	Owned Condominium	Owned Freehold
Lived at same address 1 year ago	86	87	70	87	94
Lived at same address 5 years ago	49	55	30	46	71

Source: 1996 Census, special tabulations for AES, CMHC

Method a): Residents from co-operative housing, private rental, condominium and non-profit housing projects were surveyed about the likelihood of having to move because of factors beyond their control. Comparisons of the co-operative housing responses with the responses from the other tenure types provide indicators of perceived security of tenure and differences among tenure types.

Method a) Findings:

TABLE 3.2, APPENDIX C:
CONSIDERING YOUR CURRENT DWELLING UNIT, PLEASE INDICATE YOUR LEVEL OF SATISFACTION WITH THE FOLLOWING : ABILITY TO STAY HERE AS LONG AS YOU WANT.
(PERCENTAGE SAYING VERY SATISFIED AND SOMEWHAT SATISFIED - WEIGHTED)

	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
	92.9	88.1	86.2	86	84.1	88.6	87.6
Sample size	*1,896*	*463*	*341*	*186*	*201*	*236*	*258*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 3.3, APPENDIX C:
SINCE MOVING INTO YOUR CURRENT DWELLING, HAVE ANY OF THE FOLLOWING ASPECTS OF YOUR SOCIAL SITUATION IMPROVED, STAYED THE SAME OR BECOME WORSE:
(PERCENTAGE SAYING IMPROVED - WEIGHTED)

Indicators	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Feeling settled and able to make a home	57.1	61.7	60.3	44.6	56.9	40.5	61.0
Sample size	*1,882*	*462*	*358*	*195*	*202*	*237*	*264*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method b): Regression techniques are used to assess whether the variation among households in their satisfaction with respect to their ability to stay in their housing as long as they wanted is explained by the type of housing in which they live. Regression techniques are also used to assess whether the variation among households in improvements in their feeling settled and able to make a home since moving into the project is explained by the type of housing in which they live. The control variables include housing type, household type, region, education level, immigrant status, whether a visible minority, income source, age, income level and length of time since moving into the project.

Method b) Findings: The logistic regression results show that households in co-operative housing are more satisfied with their ability to stay in their housing than are non-profit renters and private renters and are as satisfied as condominium owners. The logistic regression results also show that households in co-operative housing are more likely to improve their feeling settled and able to make a home since moving into their housing than are non-profit renters and private renters. They are as likely as condominium owners to improve this.

3.2 QUALITY OF LIFE

Expectations:It has been hypothesized that quality of life is higher in environments where people have social relationships. Social interaction may improve emotional and mental health and may help reduce social problems such as crime. Co-operative housing may support an increase in social relationships more than other forms of housing because members are involved in managing and operating the project themselves. Hence their opportunities for developing friendships and support networks increase as they become acquainted with others in meetings and when operating and maintaining the project.

Quality of life may also be enhanced where social relationships are fostered between people of different social and economic backgrounds. Co-operative housing projects funded by the federal government promote mixed income communities by reducing occupancy charges for low-income residents.

Method a): To determine whether co-operative housing improves quality of life, residents from co-operative housing, private rental, condominium and non-profit housing projects were surveyed about their experiences with respect to developing social relationships since moving into the project. Statistical comparisons of the co-operative housing responses with the responses from the other tenure types yielded information on whether or not perceived quality of life is better in co-operative housing than elsewhere.

Method a) Findings:

TABLE 3.2.1, APPENDIX C:
DO YOU THINK YOU AND/OR OTHER MEMBERS OF YOUR HOUSEHOLD HAVE BENEFITED FROM YOUR (UNPAID) PARTICIPATION IN YOUR HOUSING?
GAINED MORE FRIENDS AND STRENGTHENED PERSONAL SUPPORT?
(PERCENTAGE SAYING "YES")

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Percentage who have participated	88.9	89.8	91.7	4.4	17.1	3.3	36.6
Sample size	*1,943*	*480*	*363*	*203*	*205*	*242*	*268*
Of these, percentage who say they have benefited from participation	80.4	75.2	77.2	*	72.7	*	60.4
Sample size	*1,598*	*408*	*325*	*7*	*33*	*7*	*96*
Of these, percentage saying they gained more friends and strengthened personal support	76.9	73.2	77.3	*	*	*	46.6
Sample size	*1,258*	*300*	*251*	*3*	*24*	*3*	*58*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC
*** Numbers of respondents too small to report the data**

TABLE 3.2.2, APPENDIX C:
CONSIDERING YOUR CURRENT DWELLING UNIT, PLEASE INDICATE YOUR LEVEL OF SATISFACTION WITH THE FOLLOWING :
(PERCENTAGE SAYING VERY SATISFIED OR SOMEWHAT SATISFIED)

	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Sense of community with other residents	75.8	68.3	68.8	64.7	65.4	67.8	57
Sample size	*1,907*	*472*	*359*	*190*	*202*	*239*	*263*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

TABLE 3.2.3, APPENDIX C:
SINCE MOVING INTO YOUR CURRENT DWELLING, HAVE ANY OF THE FOLLOWING ASPECTS OF YOUR SOCIAL SITUATION IMPROVED, STAYED THE SAME OR BECOME WORSE?
(PERCENTAGE SAYING SITUATION HAS IMPROVED)

	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Relationships with friends and neighbours	49.2	44.3	47.4	34.4	39.3	30.3	29.7
Sample size	*1,858*	*458*	*350*	*192*	*201*	*234*	*259*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method b): Regression techniques are used to assess whether the variation among households in their satisfaction with their sense of community with other residents is explained by the type of housing in which they live. Regression techniques are also used to assess whether the variation among households in improvements in their relationships with friends and neighbours since moving into the project is explained by the type of housing in which they live. The control variables include housing type, household type, region, education level, immigrant status, whether a visible minority, income source, age, income level and length of time since moving into the project.

Method b) Findings: The logistic regression results show that households in co-operative housing are more satisfied with their sense of community with other residents than are non-profit renters and condominium owners, but are equally as satisfied as private renters.

The logistic regression results also show that co-operative housing members are more likely to have improved their relationships with friends and neighbours since moving into the project than are private renters and condominium owners, but are equally as satisfied as non-profit renters.

Method c): To determine whether co-operative housing improves quality of life, residents from co-operative housing, private rental, condominium and non-profit housing projects were surveyed about whether or not they feel more secure, more settled and more able to cope since moving into the project. Statistical comparisons of the co-operative housing responses with the responses from the other tenure types would yield information on whether or not perceived quality of life is better in co-operative housing than elsewhere.

Method c) Findings:

TABLE 3.2.4, APPENDIX C:
SINCE MOVING INTO YOUR CURRENT DWELLING, HAVE ANY OF THE FOLLOWING ASPECTS OF YOUR SOCIAL SITUATION IMPROVED, STAYED THE SAME OR BECOME WORSE?
(PERCENTAGE SAYING SITUATION HAS IMPROVED)

Indicators	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Feeling independent and able to cope	50.4	54.0	53.0	41.7	52.7	34.5	50.6
Feeling secure	58.8	61	56.7	42.9	50.5	42.2	50
Time spent with family	34.1	41.6	43.6	27.3	45.9	28.7	34.2
Range of sample sizes for above	*1719-1894*	*425-462*	*335-356*	*150-196*	*183-205*	*202-238*	*240-264*
Children's happiness	55.7	57.6	62.5	42.7	58.4	42.1	51.5
Children's school performance	33.4	35.4	41.7	34.7	45.2	31.7	35.1
Range of sample sizes for above	*821-1077*	*275-327*	*199-264*	*75-96*	*84-113*	*41-57*	*74-101*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method d): Regression techniques were used to assess whether improvements in the following could be explained by the type of housing:

- feeling independent and able to cope
- feeling secure
- time spent with family
- children's happiness
- children's school performance.

The control variables include housing type, household type, region, education level, immigrant status, whether a visible minority, income source, age, income level and length of time since moving into the project.

3.3 SKILLS DEVELOPMENT

Expectations: Opportunities for co-operative members to participate in managing and operating their housing provides the potential for them to learn new skills that could be beneficial in their regular employment or help enable some to find employment or to find better employment. The rate of skill development for lower skilled members may be accelerated by working with and learning from the higher skilled members. The impacts for society would be a more productive and satisfied labour force, reduced cost for income and social support programs and a larger, more efficient volunteer sector.

Method a): To determine whether or not co-operative housing develops skills and improves economic well being, residents from co-operative housing, private rental, condominium and non-profit housing projects were surveyed about their experiences with respect to learning new skills, enrolling in formal training or education course, getting a new job and increasing household income since moving into the project. Statistical comparisons of the co-operative housing responses with the responses from the other tenure types provides information on whether or not perceived skill development and improved economic well being is greater in co-operative housing than elsewhere.

Method a) Findings:

TABLE 3.3.1. APPENDIX C :
DO YOU THINK YOU AND/OR OTHER MEMBERS OF YOUR HOUSEHOLD HAVE BENEFITED FROM YOUR (UNPAID) PARTICIPATION IN YOUR HOUSING?
(PERCENTAGE SAYING YES)

Responses	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Percentage who have participated	88.9	89.8	91.7	4.4	17.1	3.3	36.6
Sample size	*1,943*	*480*	*363*	*203*	*205*	*242*	*268*
Of these, percentage who say they have benefited from participation	80.4	7.2	77.2	*	72.7	*	60.4
Sample size	*1,598*	*408*	*325*	*7*	*33*	*7*	*96*
Of these, percentage saying they:							
Acquired new financial skills	23.8	23.2	15.6	*	*	*	13.8
Acquired clerical & secretarial skills	14.5	18.6	7.6	*	*	*	3.5
Learned trades	16.3	16.9	9.6	*	*	*	5.2
Gained organizational experience	57.5	58.9	55.4	*	*	*	32.8
Improved skills in working with others	74.9	75.9	75.6	*	*	*	31
Improved self-confidence	58.6	61.2	59.4	*	*	*	19
Range of sample sizes	*1259-1264*	*30-302*	*249-251*	*3*	*24*	*3*	*58*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method b): Survey respondents were then asked to identify changes in their work and economic participation since moving to their current housing, the hypothesis being that the skills gained through participating in co-operative housing and the associated gain in self-confidence led to co-operative residents being more likely to improve their economic status or to volunteer their time to help others outside the co-operative.

Method b) Findings:

TABLE 3.3.2, APPENDIX C:
SINCE MOVING INTO YOUR CURRENT DWELLING, HAVE YOU OR MEMBERS OF YOUR HOUSEHOLD DONE ANY OF THE FOLLOWING THAT YOU WOULD NOT HAVE DONE WHERE YOU LIVED BEFORE?
(PERCENTAGE SAYING "YES" - WEIGHTED)

Activities	Regular Co-ops	FP NP Co-ops	Unilateral Provincial Co-ops	Mixed Income Non Profit Rental	Targeted Non Profit Rental	Private Rental	Condo-minium
Acquired new skills or improved old skills	40.3	46.2	46.9	27.4	32.8	28.8	30.4
Enrolled in formal educational courses	18.4	21.9	25.6	21.9	26.9	18	13.5
Completed educational qualifications	15	17.2	18	18.2	20.7	14.6	9.7
Got new or better job	22.1	27.6	26.7	24.7	27.1	25	19.1
Started your own business	5.6	5.2	9.1	8.9	1.9	5	8.1
Began working outside the home	18	20.1	18.7	15.2	23.1	17.7	8.5
Volunteered to help others	43.5	48	39.8	21.9	41.6	36.8	17.6
Range of sample sizes	*1887-1895*	*469-474*	*358-364*	*190-192*	*204-208*	*229 - 242*	*255 - 261*

Source: Evaluation of Co-operative Housing, Occupant Survey, 2001 - AES, CMHC

Method c): Regression techniques were used to assess whether undertaking the following activities could be explained by the type of housing that the respondents moved into:

- acquiring new skills or improving old skills
- enrolling in formal education courses
- completing educational qualifications
- getting a new or better job
- starting their own business
- beginning to work outside the home
- volunteering time to help others outside of the family or the housing development

The control variables include housing type, household type, region, education level, immigrant status, whether a visible minority, income source, age, income level and length of time since moving into the project.